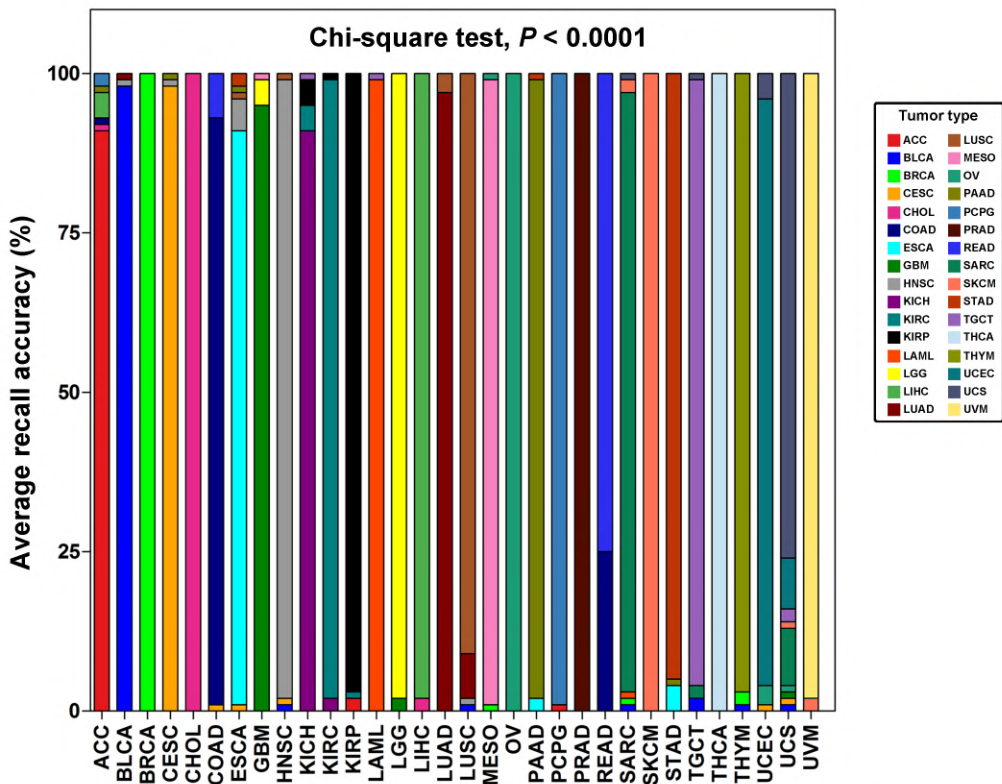


**Pan-Cancer analysis of the expression and regulation of matrisome genes across 32  
tumor types**

Valerio Izzi, Juho Lakkala, Raman Devarajan, Anni Kääriäinen, Jarkko Koivunen, Ritva Heljasvaara  
and Taina Pihlajaniemi

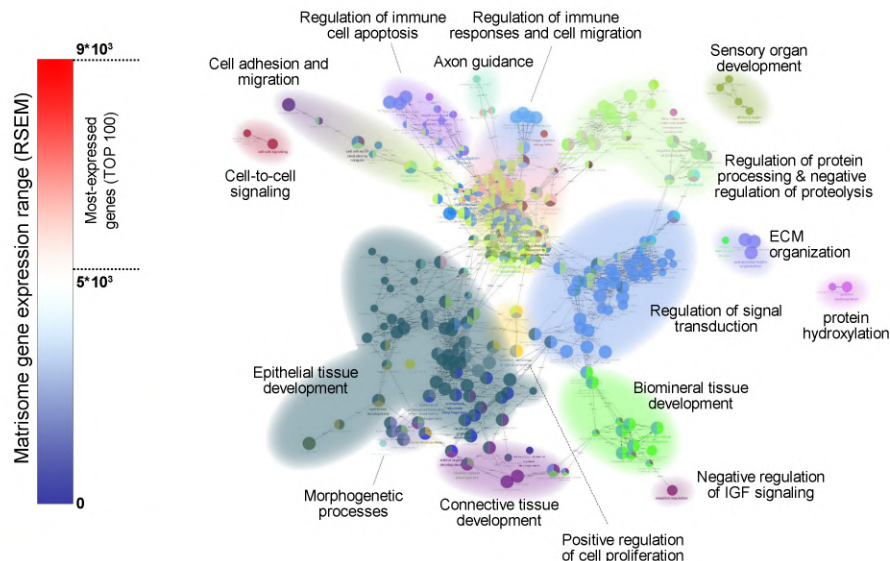
**SUPPLEMENTAL DATA**

Supplemental data for this manuscript include 17 figures and 14 tables

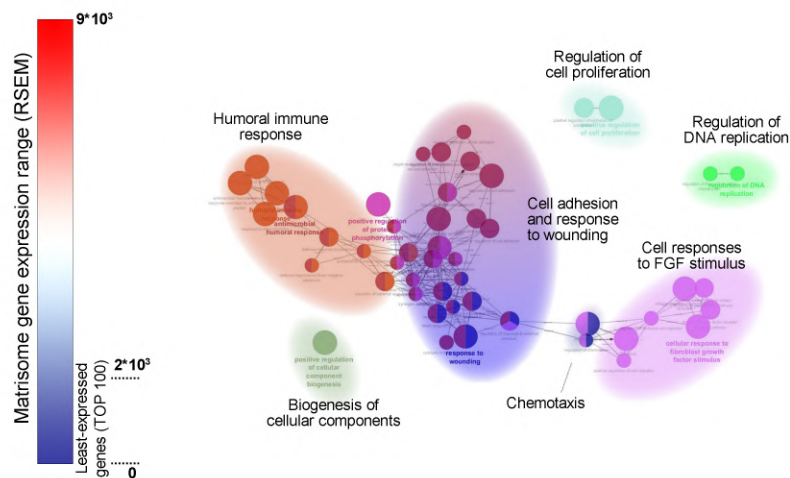


**Supplemental Figure 1. Average recall accuracy of cross-tumor classification using matrisome gene expression.** 3 independent classification algorithms (SVM, NN and C5.0) were used to classify each patient into one of the 32 possible tumor types, the assignment being repeated 100 times randomly per each algorithm. The recall accuracy (percentile of properly and missclassified cases) was then calculated as the average of all tests.

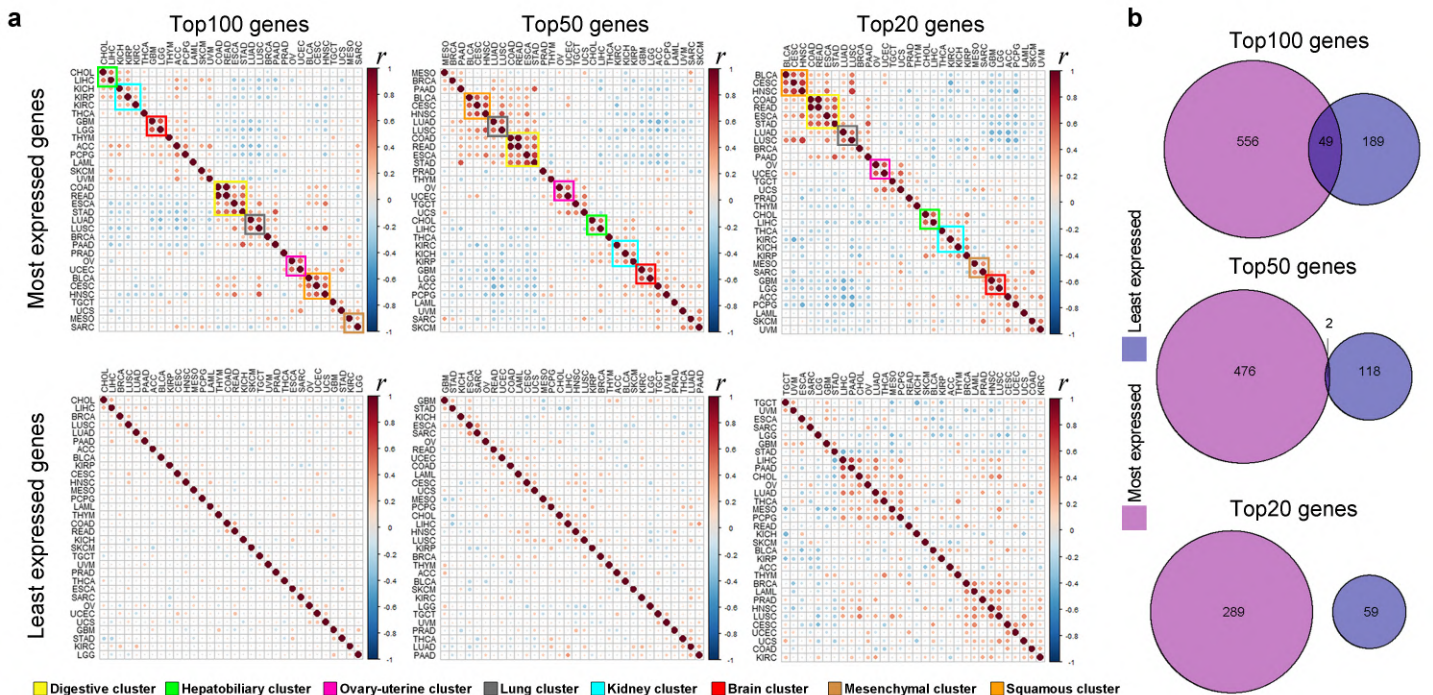
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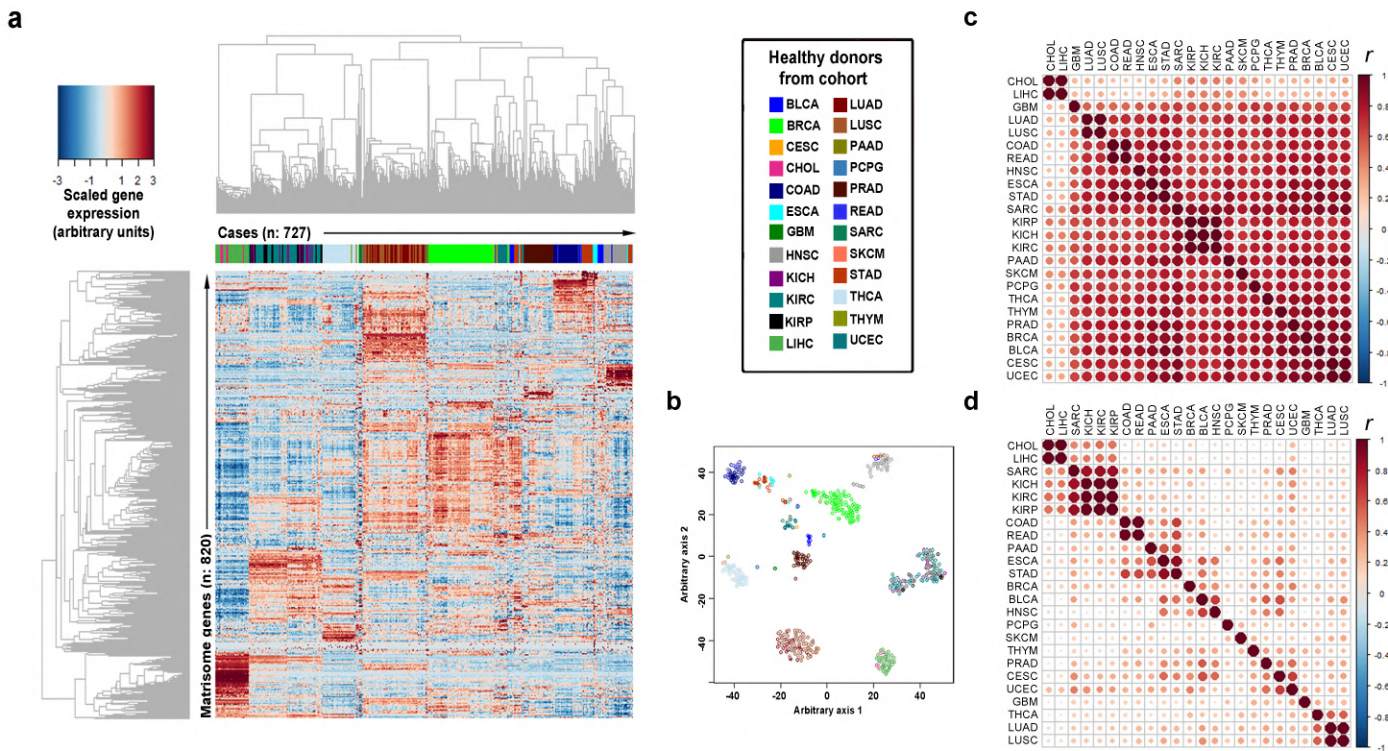


**Supplemental Data Figure 2. Gene ontology enrichment of the most- and least-expressed matrisome genes.** Network-based gene ontology (GO) enrichment for biological processes of the 100 most and least expressed matrisome genes for each tumor type. Results were calculated using only experimentally-validated evidence and plotted using the ClueGO plugin for Cytoscape. **(a)** Most expressed and **(b)** least expressed genes. The expression range for the genes in (a) and (b) is reported.

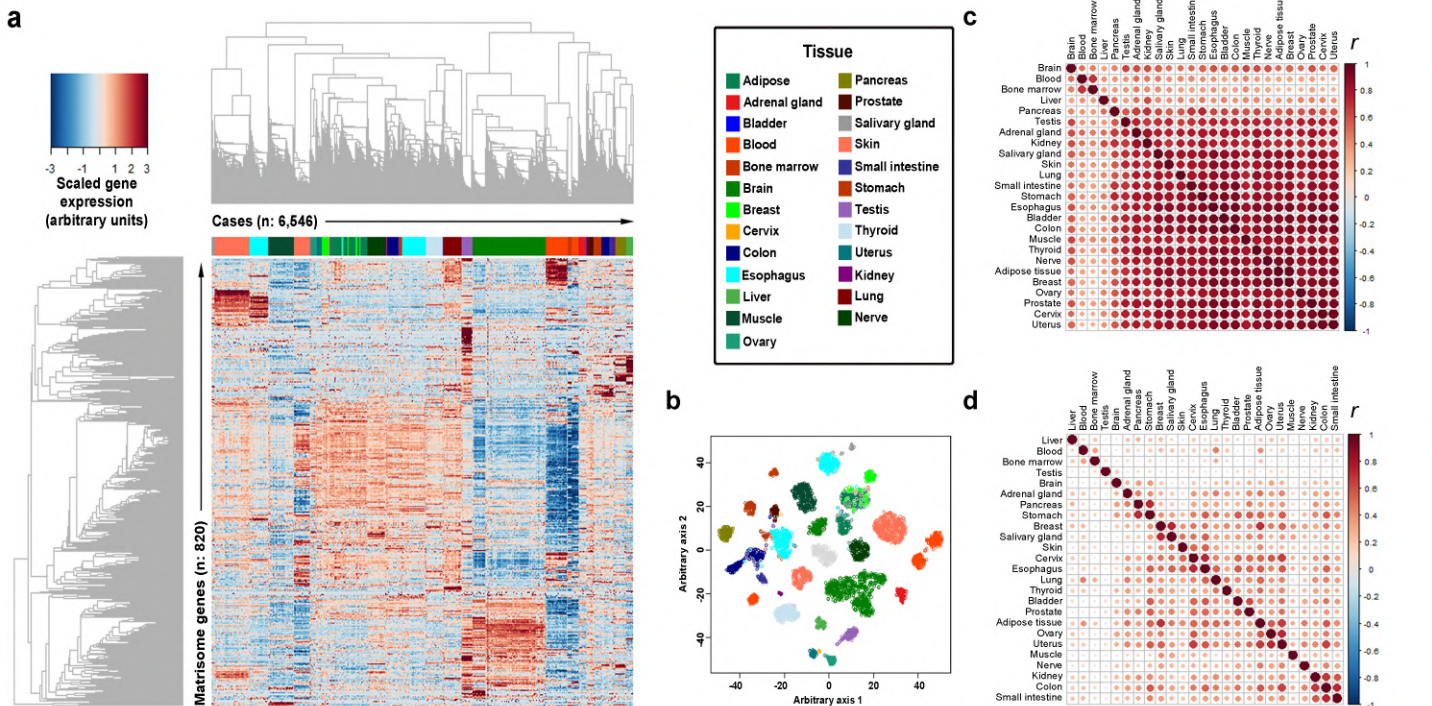


**Supplemental Figure 3. Upregulated matrisome genes identify functional clusters of tumors.** (a) Inter-tumor correlation (Pearson correlation ( $r$ )) based on the 100, 50 or 20 most- and least-expressed matrisome genes in each tumor type. Clusters of highly correlated tumor types, only observable by most expressed (upper panel) genes, are reported as colored squares. (b) Overlap between most and least expressed matrisome genes in different tumor types at different amount of top genes sampled.





**Supplemental Figure 4. Expression of matrisome genes in healthy donor tissues from The Cancer Genome Atlas (TCGA) shows overall higher inter-tissue similarities.** Expression of the same matrisome genes as in the tumor samples in 727 cases from 24 of the 32 tumor cohorts analyzed. **(a)** Heatmap of gene expression and, **(b)** multidimensional scaling of the data according to t-SNE. **(c,d)** Correlation (Pearson correlation ( $r$ )) between the different sample types based on the 100 most **(c)** and least expressed **(d)** matrisome genes.

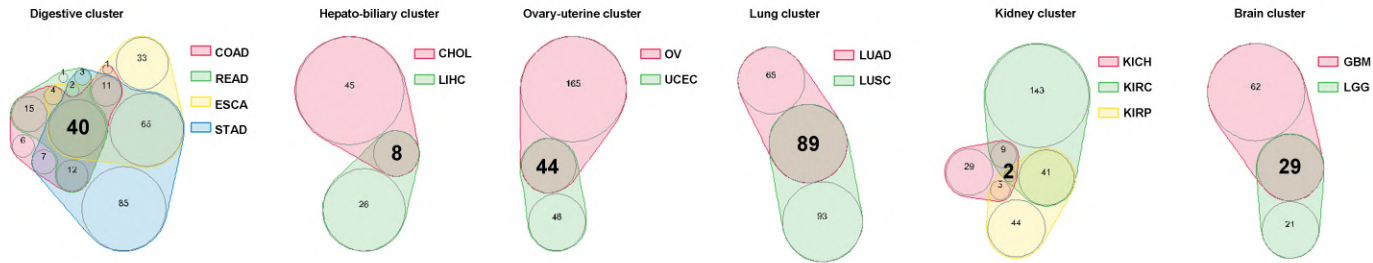


**Supplemental Figure 5. Expression of matrisome genes in healthy donor tissues from the Genotype-Tissue Expression (GTEx) database shows overall higher inter-tissue similarities.** Expression of the same matrisome genes as in the tumor samples in 6,546 cases from 25 healthy tissues, anatomically comparable to the tumor sites. **(a)** Heatmap of gene expression and, **(b)** multidimensional scaling of the data according to t-SNE. **(c,d)** Correlation (Pearson correlation ( $r$ )) between the different sample types based on the 100 most **(c)** and least expressed matrisome genes **(d)**.



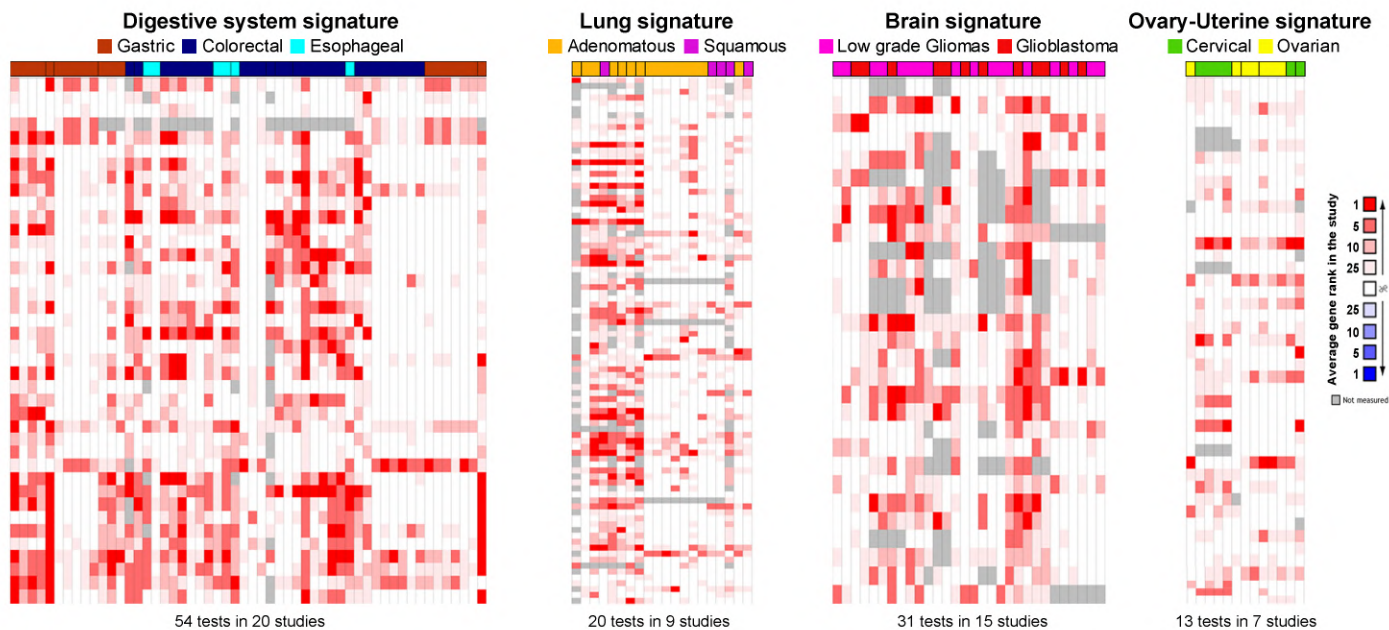


## Izzi et al Supplemental Figure 7



**Supplemental Figure 7. Intersection of individual tumor matrisome signatures to generate cluster-level signatures.** Each individual tumor matrisome signature was intersected with all other signatures from tumors in the same cluster. Genes common to all members of the cluster (bold) were considered as constituents of cluster-level signatures.





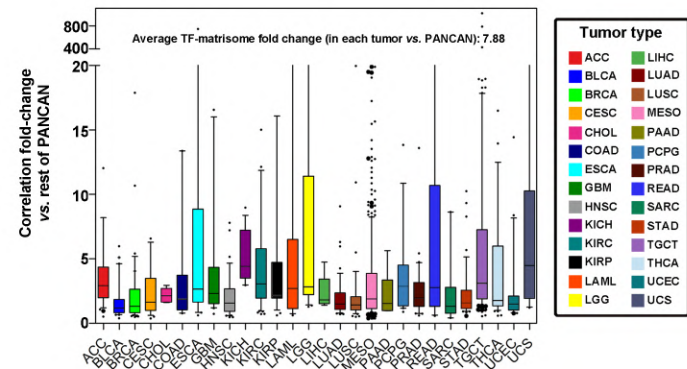
**Supplemental Figure 8. Tumor cluster-level matrisome signatures.** Cross-validation of cluster signatures by ranking of their components in different cohorts vs. respective healthy samples. Each column represents a test (tumor vs. healthy, order is as in Supplemental Table 13), and the row a gene (order is as in Supplemental Table 5). Red indicates that the given matrisome gene has higher ranking in tumor than in normal, blue that the given matrisome gene has lower ranking in tumor than in normal, white indicates no change and grey no values for the gene. Data are from *OncoPrint* meta-analysis engine.



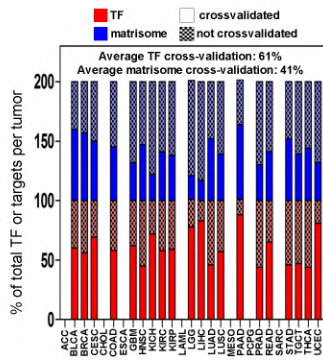




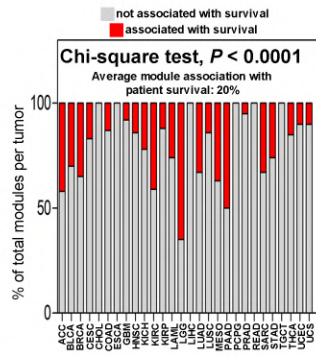
a



b

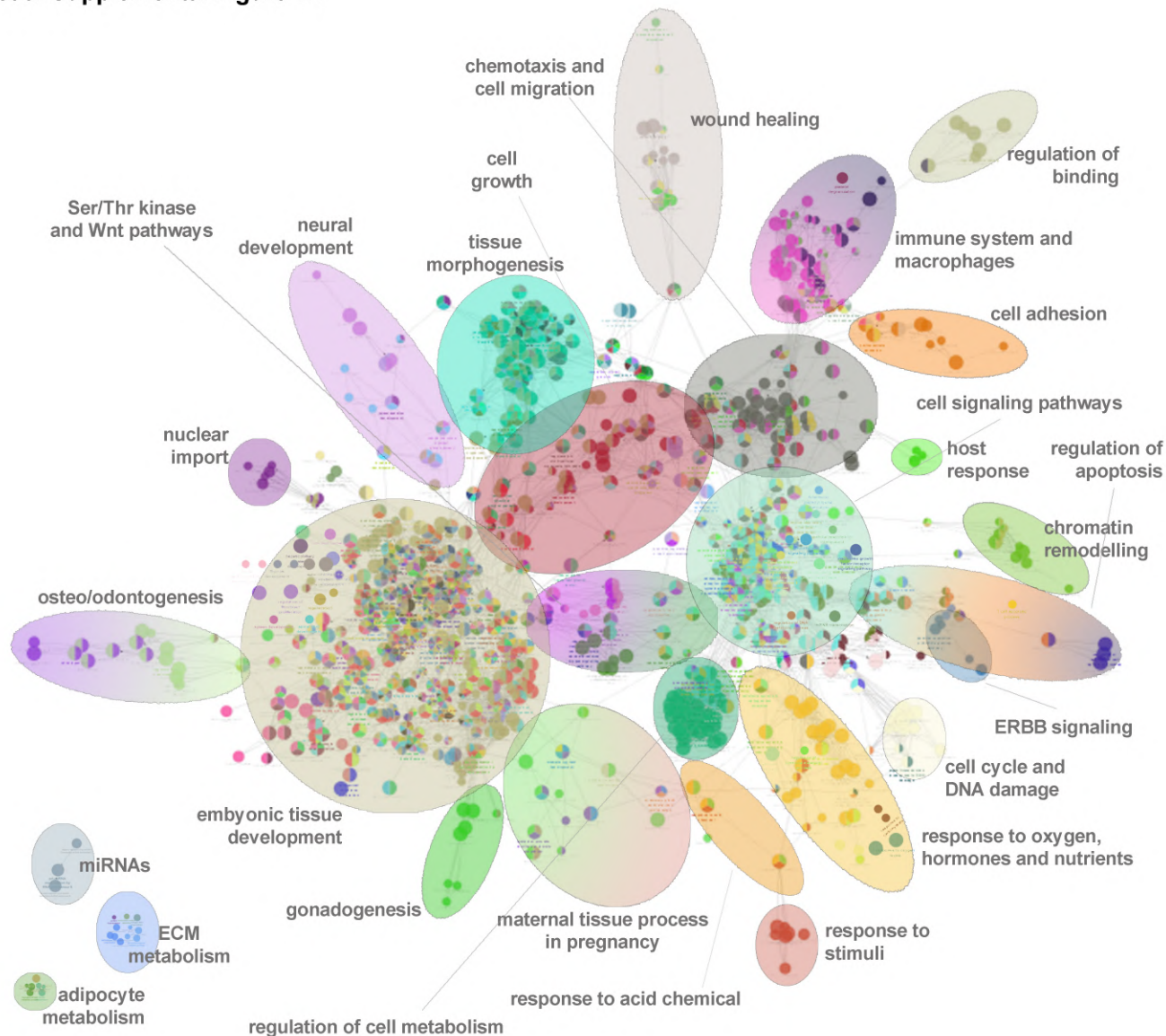


c



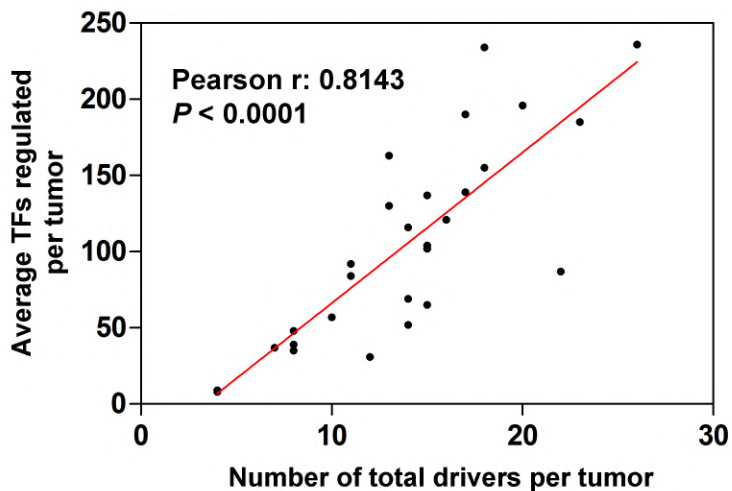
**ESupplemental Figure 11. Features of the matrisome modules.** (a) TF-matrisome correlation (Pearson  $r$ ) in any given tumor's module vs. the same TF-matrisome pair in the rest of the PANCAN cohort. Values are expressed as fold-change in each tumor vs. the rest of the Pan-Cancer (PANCAN) cohort. (b) % Cross-validation of TF and targets from each module in matching samples from The Human Protein Atlas (% number of TF or matrisome genes with "High" or "Medium" staining), and (c) % frequency of modules associated with differential patient survival in any given tumor.



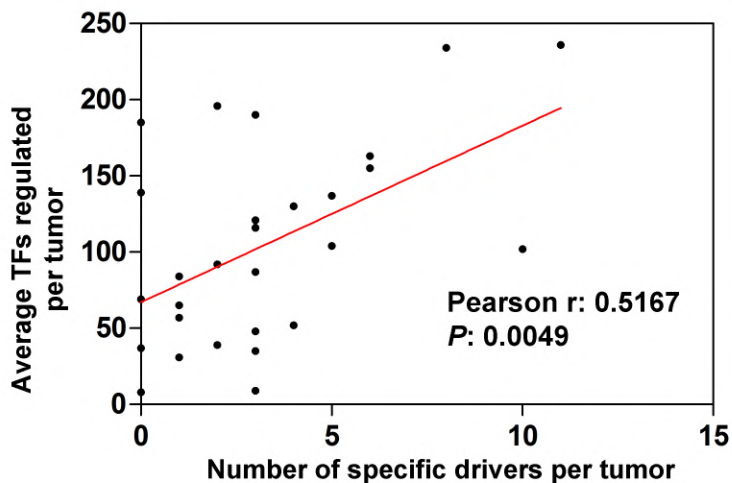


**Supplemental Figure 12. Gene ontology enrichment of the whole matrisome modules and their master regulators.** Network-based gene ontology (GO) enrichment for biological processes of the totality of modules and master regulators. Results were calculated and plotted using the ClueGO plugin for Cytoscape using only experimentally validated interactions, an enrichment threshold  $P < 0.05$  evidence and GO term fusion. Ontological overlays are manually drawn and annotated.

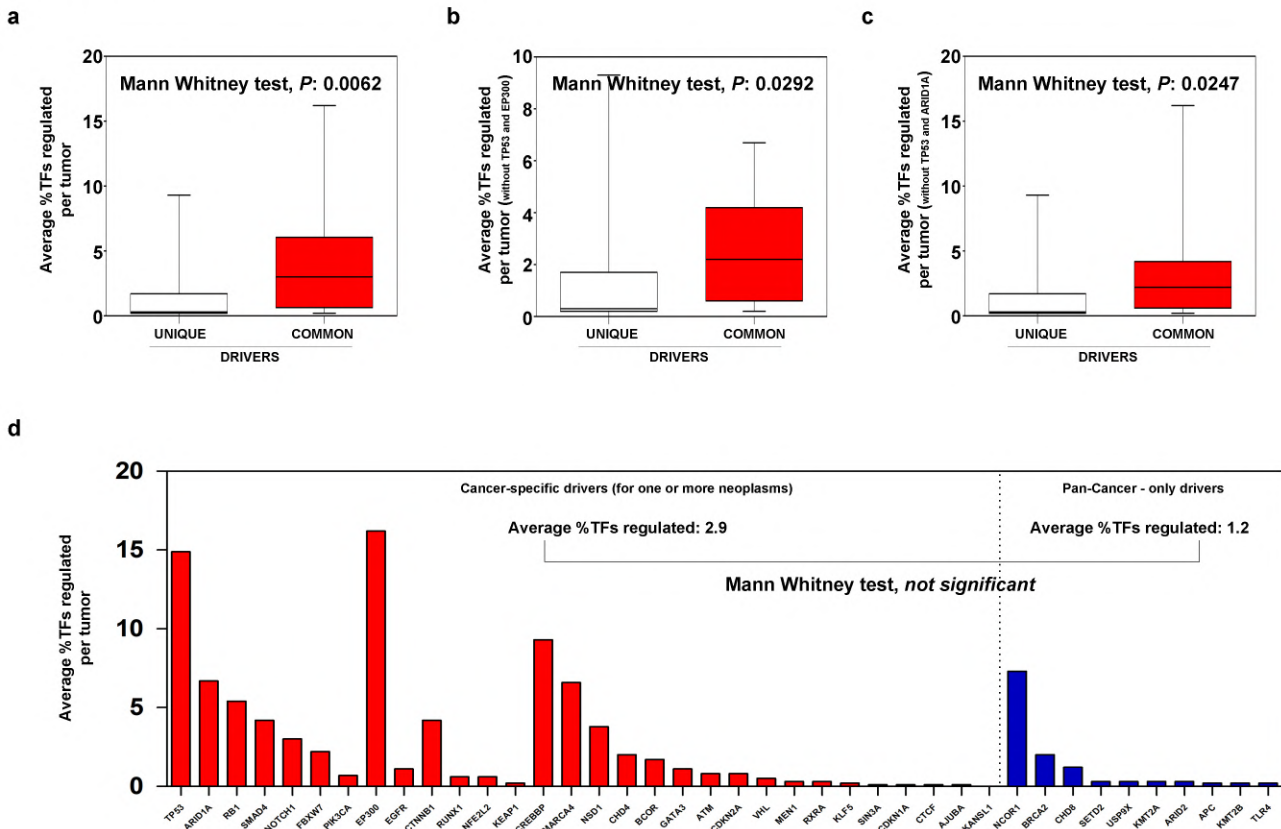
a



b

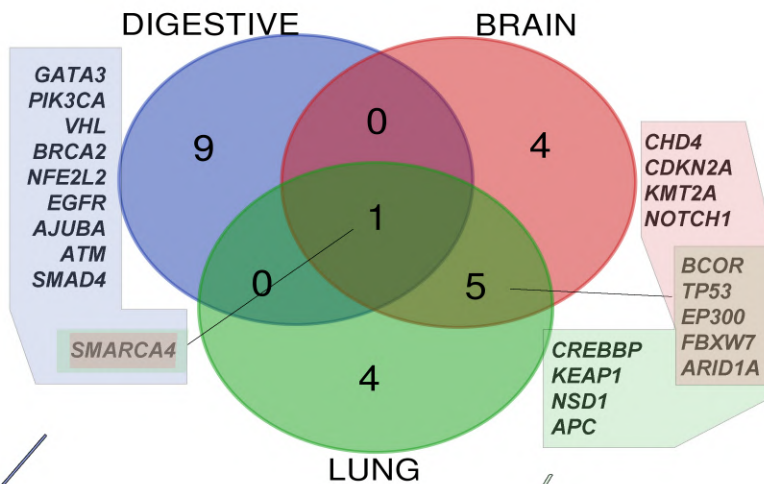


**Supplemental Figure 13. Correlations between master regulators and matrisome-controlling transcription factors (TF).** The number of cancer drivers in any given tumor correlated linearly with the number of matrisome-controlling TFs identified in the same tumor, either when the total number of drivers (a) or only the cancer-specific drivers (b) were considered.

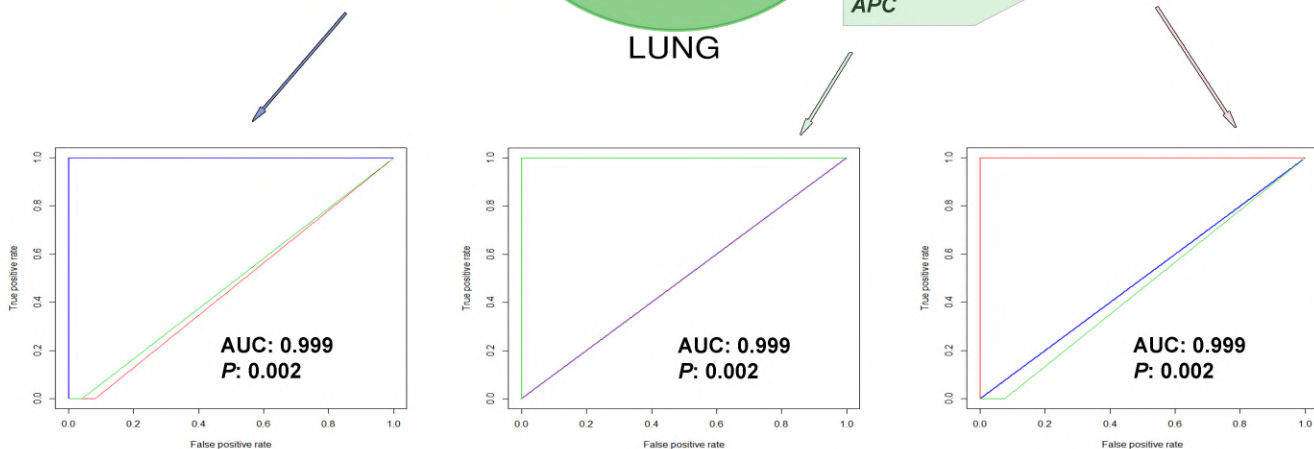


**Supplemental Figure 14. Modular structure of the cancer matrisome at the master regulator level.** Cancer driver genes shared by at least two tumor types (“common”) are (a) hubs in the cancer matrisome networks, regulating more TFs (in percentile) than the drivers active in one tumor type only (“unique”), even when (b) most common drivers (*TP53* and *EP300*) or (c) most recurrent cancer-specific drivers (*TP53* and *ARID1A*) were excluded from the analysis. (d) Cancer-specific drivers also regulated more TFs than Pan-Cancer - only drivers (those that are not found as specific drivers for any of the neoplasms studied).

a



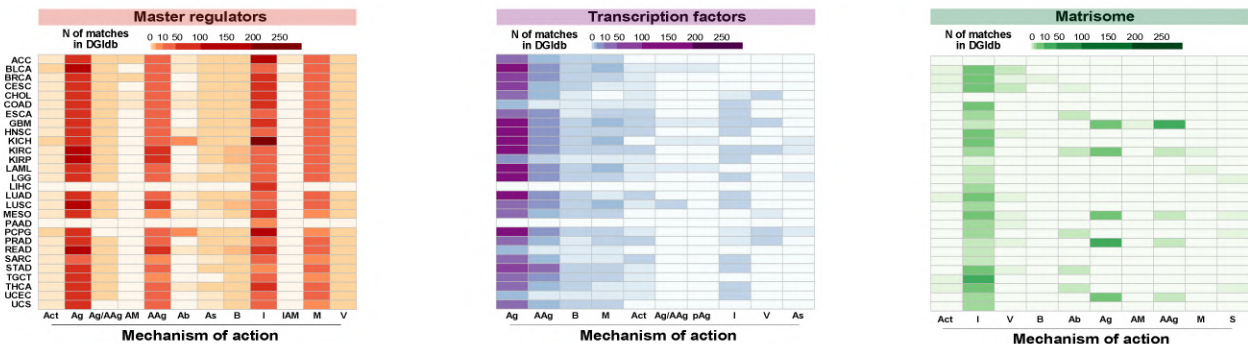
b



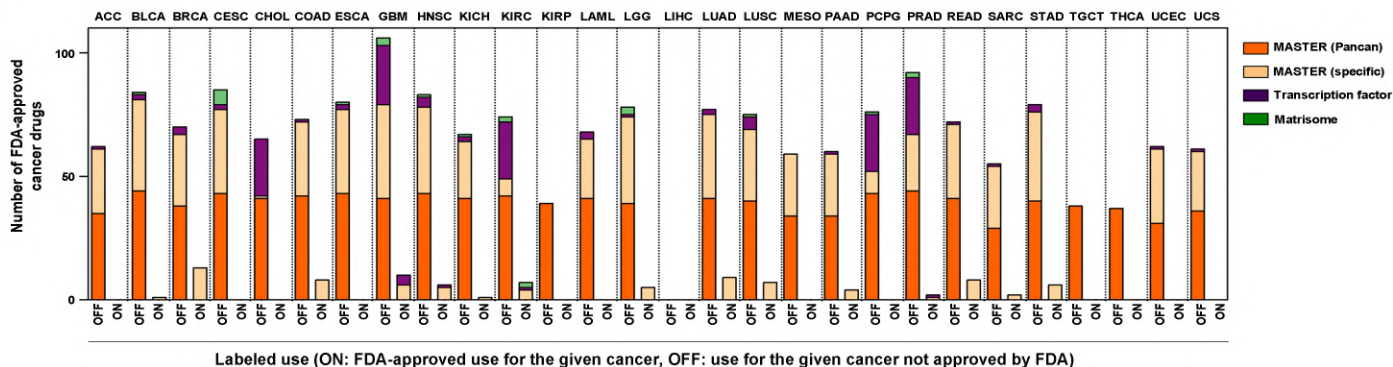
**Supplemental Figure 15. Specificity of the master regulators at the cluster level.** (a) Most important matrisome-regulating cancer drivers for digestive (ESCA, STAD, COAD and READ), brain (GBM and LGG) or lung (LUAD and LUSC) clusters extracted by Linear Support Vector Machine (LSVM) and their overlap. (b) Area under the curve (AUC) of the Receiver Operating Characteristic (ROC) graph for each group of master regulators, evaluating the ability of the given set of driver genes to correctly score the cluster of pertinence of the set. Note that colors follow the scheme in (a).



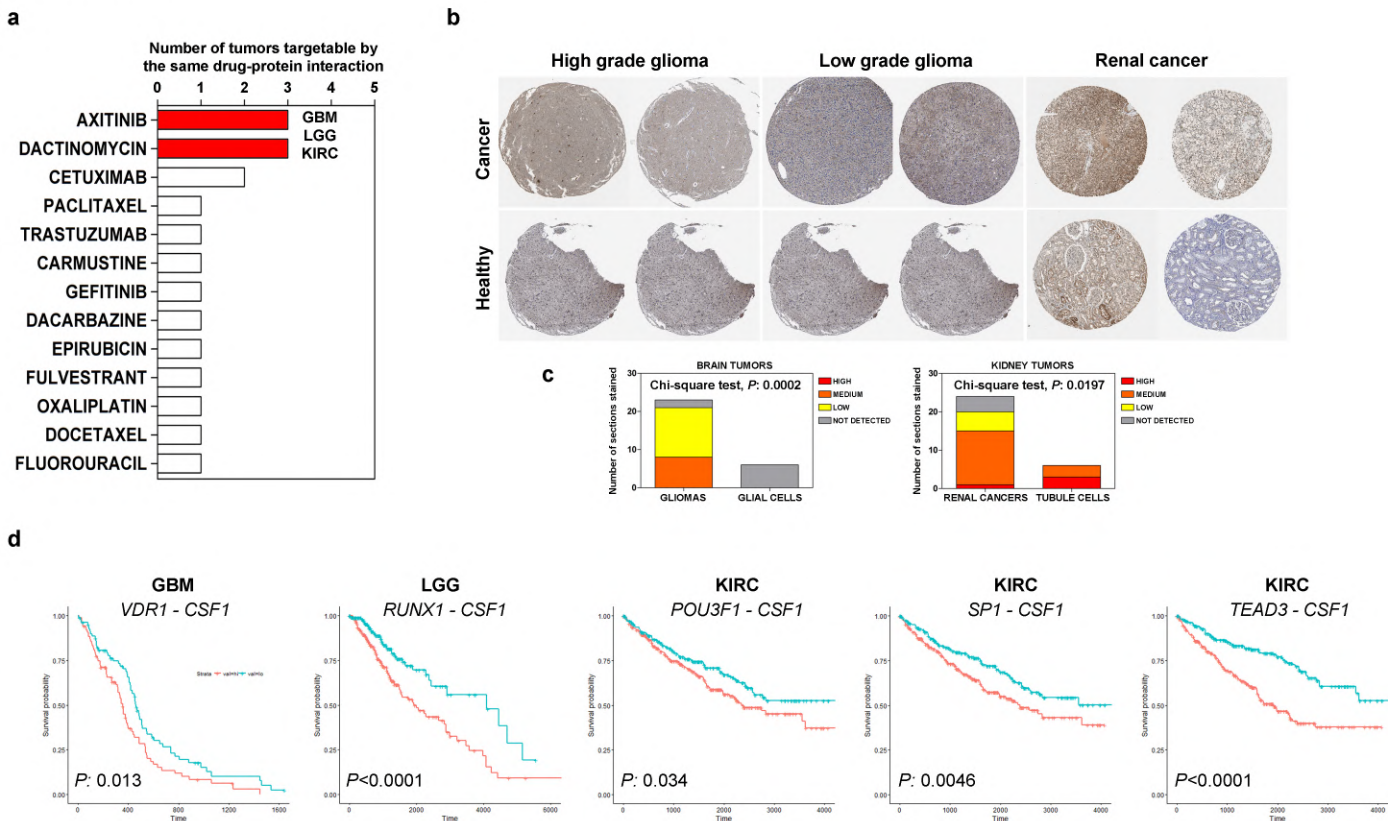
a



b



**Supplemental Figure 16. Druggability of the cancer matrisome.** (a) Identification of potential therapeutic approaches (e.g., drugs, small molecules, RNA interference, etc.) targeting the master regulators (left), transcription factors (middle) and the 28 matrisome signatures (right) identified in this study. Abbreviations: Act, activator; Ag, agonist; AAg, antagonist; Ag/AAg, agonist/antagonist; AM, allosteric modulator; Ab, antibody; As, antisense; B, binder; I, inhibitor; IAM, inhibitor/allosteric modulator; M, modulator; V, vaccine; pAg, partial agonist. (b) Number of FDA-approved cancer drugs with the potential to target master regulators, transcription factors and the matrisome proper, either used on-label (drug approved for the given cancer) or off-label (drug not approved for the given cancer).



**Supplemental Figure 17. Targeting the cancer matrix: the example of macrophage colony-stimulating factor 1 (CSF1).** Drugs with the same target and mechanism of action in different tumors indicate favorable multi-cancer drug targets. **(a)** Considering in example only the drugs acting on actual matrix proteins, Axitinib and Dactinomycin are found in the lists of glioblastoma (GBM), lower-grade glioma (LGG) and kidney clear cell carcinoma (KIRC). **(b)** Upregulation of CSF1 receptor (CSF1R) in brain and kidney tumors from The Human Protein Atlas and, **(c)** increased expression of CSF1R in indicated tumors vs. matching healthy tissues. Note that antibody staining for CSF1 has not yet been performed for the same sections. **(d)** Overall survival (days) of patients with above ("high") or below ("low") the cohort's average expression of *TF-CSF1* modules.

**Supplemental Table 1. Composition of the Pan-Cancer cohort**

<b>Tumor type</b>	<b>Abbreviation</b>	<b>System of origin</b>	<b>Number of patients</b>
Adrenocortical cancer	ACC	Endocrine	77
Bladder urothelial carcinoma	BLCA	Excretory	426
Breast invasive carcinoma	BRCA	Reproductive	1212
Cervical and endocervical cancer	CESC	Reproductive	309
Cholangiocarcinoma	CHOL	Digestive	45
Colon adenocarcinoma	COAD	Digestive	331
Esophageal carcinoma	ESCA	Digestive	195
Glioblastoma multiforme	GBM	Neurosensory	171
Head and neck squamous cell carcinoma	HNSC	Tegument	564
Kidney chromophobe cell carcinoma	KICH	Excretory	91
Kidney clear cell carcinoma	KIRC	Excretory	603
Kidney papillary cell carcinoma	KIRP	Excretory	321
Acute myeloid leukemia	LAML	Hematopoietic	173
Brain lower grade glioma	LGG	Neurosensory	523
Liver hepatocellular carcinoma	LIHC	Digestive	421
Lung adenocarcinoma	LUAD	Respiratory	574
Lung squamous cell carcinoma	LUSC	Respiratory	548
Mesothelioma	MESO	Respiratory	87
Ovarian serous cystadenocarcinoma	OV	Reproductive	427
Pancreatic adenocarcinoma	PAAD	Digestive	183
Pheochromocytoma and paraganglioma	PCPG	Endocrine	185
Prostate adenocarcinoma	PRAD	Reproductive	548
Rectum adenocarcinoma	READ	Digestive	103
Sarcoma	SARC	Other	264
Skin cutaneous melanoma	SKCM	Tegument	470
Stomach adenocarcinoma	STAD	Digestive	450
Testicular germ cell tumor	TGCT	Reproductive	154
Thyroid carcinoma	THCA	Endocrine	571
Thymoma	THYM	Hematopoietic	121
Uterine corpus endometrioid carcinoma	UCEC	Reproductive	204
Uterine carcinosarcoma	UCS	Reproductive	57
Uveal melanoma	UVM	Neurosensory	79







### C5.0 Classification and Regression Tress (C5.0)

	ACC	BLCA	BRCA	CESC	CHOL	COAD	ESCA	GBM	HNSC	KICH	KIRC	KIRP	LAML	LGG	LIHC	LUAD	LUSC	MESO	OV	PAAD	PCPG	PRAD	READ	SARC	SKCM	STAD	TGCT	THCA	THYM	UCEC	UCS	UVM	
ACC	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	
BLCA	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
BRCA	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
CESC	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
CHOL	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
COAD	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	25 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
ESCA	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
GBM	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
HNSC	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
KICH	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
KIRC	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
KIRP	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
LAML	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
LGG	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
LIHC	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
LUAD	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
LUSC	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
MESO	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
OV	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
PAAD	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
PCPG	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
PRAD	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
READ	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	75 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
SARC	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
SKCM	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
STAD	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
TGCT	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %
THCA	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %
THYM	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %
UCEC	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %
UCS	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %
UVM	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %

% of correctly classified cases (azure) per tumor type. Significant outliers (> 5% misclassified cases) are highlighted in orange.

**Supplemental Table 3. Average recall accuracy**

	ACC	BLCA	BRCA	CESC	CHOL	COAD	ESCA	GBM	HNSC	KICH	KIRC	KIRP	LAML	LGG	LIHC	LUAD	LUSC	MESO	OV	PAAD	PCPG	PRAD	READ	SARC	SKCM	STAD	TGCT	THCA	THYM	UCEC	UCS	UVM		
ACC	91 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	2 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	
BLCA	0 %	96 %	0 %	0 %	0 %	0 %	0 %	0 %	1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	1 %	0 %	0 %	0 %	0 %	0 %	0 %	1 %	0 %	0 %	2 %	0 %	1 %	0 %	1 %	0 %		
BRCA	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	1 %	0 %	0 %	0 %	0 %	0 %	1 %	0 %	0 %	0 %	0 %	2 %	0 %	0 %	0 %	0 %	
CESC	0 %	0 %	0 %	97 %	0 %	1 %	1 %	0 %	1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	1 %	1 %	0 %	0 %	
CHOL	2 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	2 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	
COAD	1 %	0 %	0 %	0 %	0 %	91 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	25 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	
ESCA	0 %	0 %	0 %	0 %	0 %	0 %	89 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	2 %	0 %	0 %	0 %	0 %	0 %	4 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	
GBM	0 %	0 %	0 %	0 %	0 %	0 %	0 %	95 %	0 %	0 %	0 %	0 %	0 %	2 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	1 %	0 %	0 %	
HNSC	0 %	0 %	0 %	1 %	0 %	0 %	5 %	0 %	96 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	
KICH	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	88 %	2 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
KIRC	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	4 %	96 %	1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
KIRP	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	4 %	1 %	96 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
LAML	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	99 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
LGG	0 %	0 %	0 %	0 %	0 %	0 %	0 %	4 %	0 %	0 %	0 %	0 %	0 %	98 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
LIHC	4 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	97 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
LUAD	0 %	1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	97 %	5 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
LUSC	0 %	0 %	0 %	0 %	0 %	0 %	1 %	0 %	1 %	0 %	0 %	0 %	0 %	0 %	0 %	1 %	91 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
MESO	0 %	0 %	0 %	0 %	0 %	0 %	0 %	1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	99 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
OV	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	1 %	99 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	3 %	1 %	0 %	0 %
PAAD	1 %	0 %	0 %	1 %	0 %	0 %	1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	96 %	0 %	0 %	0 %	0 %	0 %	1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
PCPG	2 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	99 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
PRAD	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	100 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
READ	0 %	0 %	0 %	0 %	0 %	7 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	75 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
SARC	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	92 %	0 %	0 %	2 %	0 %	0 %	0 %	9 %	0 %	0 %	
SKCM	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	2 %	99 %	0 %	0 %	0 %	0 %	0 %	1 %	2 %	0 %	
STAD	0 %	0 %	0 %	0 %	0 %	0 %	2 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	1 %	0 %	0 %	0 %	0 %	0 %	94 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
TGCT	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	1 %	0 %	0 %	1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	95 %	0 %	0 %	0 %	2 %	0 %	0 %	
THCA	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	99 %	0 %	0 %	0 %	0 %	0 %	0 %	
THYM	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	96 %	0 %	0 %	0 %	0 %	0 %	
UCEC	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	91 %	8 %	0 %	0 %	0 %	
UCS	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	1 %	0 %	0 %	1 %	0 %	0 %	4 %	77 %	0 %	0 %	
UVM	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	98 %	0 %
<b>Recall accuracy</b>	<b>91 %</b>	<b>96 %</b>	<b>100 %</b>	<b>97 %</b>	<b>100 %</b>	<b>91 %</b>	<b>89 %</b>	<b>95 %</b>	<b>96 %</b>	<b>88 %</b>	<b>96 %</b>	<b>96 %</b>	<b>99 %</b>	<b>98 %</b>	<b>97 %</b>	<b>97 %</b>	<b>91 %</b>	<b>99 %</b>	<b>99 %</b>	<b>96 %</b>	<b>99 %</b>	<b>100 %</b>	<b>75 %</b>	<b>92 %</b>	<b>99 %</b>	<b>94 %</b>	<b>95 %</b>	<b>99 %</b>	<b>96 %</b>	<b>91 %</b>	<b>77 %</b>	<b>98 %</b>	<b>0 %</b>	<b>0 %</b>

% average of correctly classified cases (azure) by the 3 algorithms (SVM, NN and C5.0) per tumor type. Significant outliers (> 5% misclassified cases) are highlighted in orange. Per-tumor recall accuracy is given in red.

**Supplemental Table 4. Matrisome signatures of different cancer types**

Adrenocortical Cancer (ACC)									
Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
ADAM22	8.815177922	7.815739107	2.83E-05	8.815177922	7.86075	1.85E-42	ECM_REGULATORS	1.127875151	1.121416903
ADAM32	5.555628571	4.623915648	2.94E-06	5.555628571	3.996519318	8.93E-07	ECM_REGULATORS	1.201498685	1.390116781
ADAMTS3	7.664607792	5.852472863	4.13E-17	7.664607792	2.823254545	4.85E-17	ECM_REGULATORS	1.309635768	2.714812876
ADAMTS7	9.98702987	8.051686859	2.44E-28	9.98702987	1.104234091	4.17E-98	ECM_REGULATORS	1.240364913	9.044304964
ADAMTSL5	6.998357143	6.224306234	0.000785007	6.998357143	0.935293182	2.40E-10	ECM_REGULATORS	1.124359387	7.482527702
AMH	6.71878961	4.836009039	1.02E-11	6.71878961	0.357515909	1.29E-66	SECRETED_FACTORS	1.38932528	18.79298079
ANGPT2	9.451393506	8.571205476	1.15E-06	9.451393506	0.017190909	2.17E-40	SECRETED_FACTORS	1.102691276	549.7902093
ANGPTL1	6.825520779	6.022709597	0.005449909	6.825520779	0.705911364	7.89E-61	SECRETED_FACTORS	1.133297342	9.669090386
ANGPTL2	11.04859091	10.4266921	0.002108585	11.04859091	10.47743068	4.83E-76	SECRETED_FACTORS	1.059644881	1.054513386
ANGPTL5	1.966454545	1.364826042	0.000481296	1.966454545	0.079918182	2.37E-51	SECRETED_FACTORS	1.44080966	24.60584689
ANXA5	14.28912857	13.37547354	9.97E-15	14.28912857	0.076728409	1.24E-75	ECM_AFFILIATED	1.068308239	186.2299602
ANXA6	13.20392987	12.24751976	1.23E-11	13.20392987	0.067611364	5.21E-56	ECM_AFFILIATED	1.078090106	195.2915776
BDNF	6.014312987	5.221790106	0.000965588	6.014312987	2.182115909	1.39E-31	SECRETED_FACTORS	1.151772259	2.756184015
C1QTNF1	10.79542597	9.826968473	6.44E-07	10.79542597	1.214376136	9.47E-65	ECM_AFFILIATED	1.098550993	8.889688829
CCBE1	8.591724675	4.721905331	1.39E-40	8.591724675	1.862502273	2.04E-50	SECRETED_FACTORS	1.819546152	4.613000908
COL15A1	11.08727922	10.47593997	0.015402876	11.08727922	7.035285227	2.07E-74	COLLAGENS	1.058356506	1.575953051
COL15A1	11.08727922	10.47593997	0.015402876	11.08727922	7.035285227	2.07E-74	BASEMENT_MEMBRANES	1.058356506	1.575953051
COL27A1	10.29321558	9.597191095	0.000647837	10.29321558	0.979778409	9.98E-17	COLLAGENS	1.072523771	10.50565668
COL4A3	6.379018182	5.703849318	0.04700141	6.379018182	4.126751136	3.46E-88	COLLAGENS	1.11837074	1.545772442
COL4A3	6.379018182	5.703849318	0.04700141	6.379018182	4.126751136	3.46E-88	BASEMENT_MEMBRANES	1.11837074	1.545772442
CTSA	15.10262597	12.79478354	2.68E-105	15.10262597	0.294693182	5.82E-80	ECM_REGULATORS	1.180373699	51.24864403
CTSD	15.58845844	15.15320206	0.00035932	15.58845844	8.252893182	2.89E-60	ECM_REGULATORS	1.028723723	1.888847717
DDX26B	9.465680519	8.163761681	9.16E-19	9.465680519	1.648797727	1.39E-92	ECM_GLYCOPROTEINS	1.159475361	5.740959223
DHH	4.00954026	3.148019068	6.15E-07	4.00954026	1.124777273	1.29E-40	SECRETED_FACTORS	1.273670894	3.564741533
EGLN1	11.63714156	11.20446073	5.08E-07	11.63714156	7.600998864	1.81E-97	ECM_REGULATORS	1.038616837	1.531001618
EGLN2	11.93181169	11.42586543	2.80E-11	11.93181169	9.702230682	6.66E-98	ECM_REGULATORS	1.044280782	1.229800865
ELSPBP1	2.825581818	0.449653093	2.32E-64	2.825581818	0.149809091	4.97E-54	ECM_GLYCOPROTEINS	6.283915003	18.86121731
EMID1	10.61436494	8.135856465	3.03E-31	10.61436494	8.202040909	9.78E-76	ECM_GLYCOPROTEINS	1.304640142	1.294112655
EPO	2.856264935	2.119340672	0.001616851	2.856264935	2.3963625	0.000121936	SECRETED_FACTORS	1.347713925	1.191916889
ESM1	9.877927273	7.684936378	2.81E-14	9.877927273	6.248171591	8.98E-40	PROTEOGLYCANS	1.285362271	1.580930858
F10	7.413505195	6.188117925	3.12E-05	7.413505195	0.041297727	1.59E-66	ECM_REGULATORS	1.198022611	179.5136363
FCN2	6.401418182	1.582387752	9.30E-90	6.401418182	0.146671591	0.020297684	ECM_AFFILIATED	4.045416917	43.64456772
FGF11	8.524801299	7.671139356	0.000690552	8.524801299	0.404869318	8.62E-58	SECRETED_FACTORS	1.111282288	21.05568616
FGF12	9.102087013	6.275401441	1.45E-25	9.102087013	2.663564773	0.000636392	SECRETED_FACTORS	1.450439004	3.417257619
FNDC7	1.345105195	0.778636964	2.58E-05	1.345105195	0	2.28E-67	ECM_GLYCOPROTEINS	1.727512636	Inf
GPC5	3.583584416	2.904613583	0.018573648	3.583584416	2.522506818	1.03E-88	ECM_AFFILIATED	1.233755993	1.420644095
HYAL1	9.114428571	7.567390845	1.02E-09	9.114428571	3.861846591	2.01E-19	ECM_REGULATORS	1.204434759	2.360121863
HYAL2	11.55970649	11.15881723	9.93E-06	11.55970649	1.068781818	1.01E-152	ECM_REGULATORS	1.035925784	10.81577764



LAMB1	13.00148182	12.22737797	4.22E-05	13.00148182	6.506263636	2.59E-63	BASEMENT_MEMBRANES	1.063309063	1.998302335
LAMB1	13.00148182	12.22737797	4.22E-05	13.00148182	6.506263636	2.59E-63	ECM_GLYCOPROTEINS	1.063309063	1.998302335
LAMB2	13.91894805	12.70728354	1.87E-17	13.91894805	6.199969318	1.95E-110	BASEMENT_MEMBRANES	1.095351969	2.245002731
LAMB2	13.91894805	12.70728354	1.87E-17	13.91894805	6.199969318	1.95E-110	ECM_GLYCOPROTEINS	1.095351969	2.245002731
LGALS1	13.43300519	12.68939432	4.32E-06	13.43300519	9.332195455	7.31E-148	ECM_AFFILIATED	1.058600974	1.439426045
MATN3	7.001937662	6.484673487	0.041961317	7.001937662	6.243238636	7.19E-83	ECM_GLYCOPROTEINS	1.079767189	1.12152331
MGP	12.48060909	11.8244419	0.029056308	12.48060909	9.700438636	7.47E-33	ECM_GLYCOPROTEINS	1.055492445	1.286602551
MMRN2	10.6691013	9.716885379	8.64E-09	10.6691013	4.095342045	7.55E-108	ECM_GLYCOPROTEINS	1.097996002	2.605179538
NOV	11.62837143	8.007560989	1.21E-58	11.62837143	8.679488636	1.55E-77	ECM_GLYCOPROTEINS	1.452173945	1.339753056
NTN4	10.30404805	9.744069894	0.019749201	10.30404805	0.432769318	5.65E-80	BASEMENT_MEMBRANES	1.057468611	23.80956232
NTN4	10.30404805	9.744069894	0.019749201	10.30404805	0.432769318	5.65E-80	ECM_GLYCOPROTEINS	1.057468611	23.80956232
NTN5	4.683575325	3.692497166	2.85E-08	4.683575325	2.335186364	2.34E-71	ECM_GLYCOPROTEINS	1.268403228	2.005653766
NTN5	4.683575325	3.692497166	2.85E-08	4.683575325	2.335186364	2.34E-71	BASEMENT_MEMBRANES	1.268403228	2.005653766
NTNG2	6.431781818	5.944061326	0.037233929	6.431781818	5.459398864	4.86E-78	ECM_GLYCOPROTEINS	1.082051726	1.178111726
NTNG2	6.431781818	5.944061326	0.037233929	6.431781818	5.459398864	4.86E-78	BASEMENT_MEMBRANES	1.082051726	1.178111726
OGFOD1	11.28945584	10.46202936	1.87E-48	11.28945584	2.750610227	6.86E-26	ECM_REGULATORS	1.079088527	4.104345913
P4HTM	10.94929091	10.30303633	1.32E-05	10.94929091	9.048806818	3.01E-113	ECM_REGULATORS	1.062724672	1.210025933
PCOLCE	11.30038312	10.58330325	0.000448722	11.30038312	0.029690909	0.017629848	ECM_GLYCOPROTEINS	1.067755771	380.6007786
PCOLCE2	8.264458442	6.546396638	1.32E-08	8.264458442	2.041115909	5.09E-44	ECM_GLYCOPROTEINS	1.262443891	4.048990263
PLXNB3	10.1234026	8.331585091	1.78E-09	10.1234026	1.239193182	5.01E-65	ECM_AFFILIATED	1.215063219	8.16934982
PLXNC1	10.76013377	9.654817887	2.67E-09	10.76013377	1.197148864	1.48E-85	ECM_AFFILIATED	1.114483348	8.988133467
SDC3	13.81238182	11.8710735	1.27E-28	13.81238182	10.3619375	1.30E-62	ECM_AFFILIATED	1.163532668	1.332992196
SEMA3B	10.56747143	9.546515927	8.92E-06	10.56747143	4.055819318	8.18E-32	ECM_AFFILIATED	1.106945352	2.605508431
SEMA7A	9.735885714	8.474149491	3.32E-11	9.735885714	7.163461364	1.76E-38	ECM_AFFILIATED	1.148892373	1.359103542
SERPINA5	15.0531026	6.399061671	1.95E-86	15.0531026	0.026001136	0.004495013	ECM_REGULATORS	2.352392174	578.9401812
SERPINB6	12.36965844	11.87641585	2.33E-06	12.36965844	1.951163636	7.96E-24	ECM_REGULATORS	1.041531266	6.339631495
SERPINH1	13.00680519	12.69555323	0.049037869	13.00680519	5.440107955	1.78E-47	ECM_REGULATORS	1.024516613	2.390909391
SNED1	10.49388182	9.159522046	9.15E-14	10.49388182	2.744521591	3.83E-106	ECM_GLYCOPROTEINS	1.145680066	3.823574153
SPARC	16.66842727	15.14837562	2.11E-16	16.66842727	6.178789773	8.38E-114	ECM_GLYCOPROTEINS	1.100344201	2.697684803
SPOCK1	11.90525714	9.333476119	5.73E-16	11.90525714	0.083861364	4.16E-70	PROTEOGLYCANS	1.275543751	141.963553
SRPX	9.338536364	8.165440701	7.06E-06	9.338536364	5.828085227	1.15E-63	ECM_GLYCOPROTEINS	1.143665934	1.602333528
SSPO	6.929906494	5.541056676	3.28E-09	6.929906494	2.583748864	1.31E-132	ECM_GLYCOPROTEINS	1.250647105	2.68211303
TECTA	6.116345455	5.164499789	9.04E-09	6.116345455	6.007329545	4.39E-24	ECM_GLYCOPROTEINS	1.18430549	1.01814715
TIMP1	14.64268961	13.05371847	1.56E-15	14.64268961	10.69748068	1.33E-79	ECM_REGULATORS	1.121725556	1.368797948
TNXB	12.63701039	9.455618722	2.78E-44	12.63701039	9.466342045	1.77E-30	ECM_GLYCOPROTEINS	1.336455155	1.33494124
WFIKKN2	3.120831169	2.384223074	0.00158006	3.120831169	1.607265909	1.78E-101	SECRETED_FACTORS	1.308950997	1.941701837
WISP2	10.49606104	6.064880317	1.45E-41	10.49606104	9.519772727	2.32E-93	ECM_GLYCOPROTEINS	1.730629541	1.102553742
WNT11	8.400097403	5.991537272	2.56E-18	8.400097403	2.8379625	3.97E-32	SECRETED_FACTORS	1.401993682	2.959904298
WNT4	8.500555844	6.949631508	2.22E-09	8.500555844	5.422438636	4.53E-50	SECRETED_FACTORS	1.223166413	1.567662894
WNT6	5.023546753	3.833595139	1.22E-06	5.023546753	3.036595455	2.15E-113	SECRETED_FACTORS	1.310400961	1.654335202
VTN	10.94211818	5.254219308	1.13E-44	10.94211818	5.340589773	4.52E-49	ECM_GLYCOPROTEINS	2.082539296	2.048859517
VWA5B2	11.05322208	4.448986647	6.11E-120	11.05322208	3.707904545	2.14E-50	ECM_GLYCOPROTEINS	2.484435885	2.980988842
ZP1	3.594903896	2.113987157	2.01E-13	3.594903896	0.2721625	1.63E-41	ECM_GLYCOPROTEINS	1.700532515	13.20866723
ZP3	8.210411688	7.793445658	0.014129186	8.210411688	6.596473864	1.25E-37	ECM_GLYCOPROTEINS	1.053502141	1.24466675

**Bladder Urothelial Carcinoma (BLCA)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
A2ML1	8.298537793	3.790856356	1.49E-139	8.298537793	6.286505263	0.01757604	ECM_REGULATORS	2.189093179	1.320055809
ADAM10	12.84673052	12.02965498	4.95E-111	12.84673052	11.92630526	1.93E-05	ECM_REGULATORS	1.067921776	1.07717606
ADAM15	12.52005235	12.09285726	9.50E-19	12.52005235	11.92044211	0.001126945	ECM_REGULATORS	1.035326233	1.050301007
ADAM17	10.42462934	10.14128815	3.46E-07	10.42462934	9.780221053	0.010466552	ECM_REGULATORS	1.027939369	1.065888929
ADAM8	10.63341808	8.674758783	9.31E-115	10.63341808	8.756173684	3.19E-07	ECM_REGULATORS	1.225788329	1.21439095
ADAMTS20	2.968990376	1.652162821	3.44E-31	2.968990376	1.117489474	0.002129845	ECM_REGULATORS	1.797032555	2.65683968
ADAMTS7	9.163955399	8.032070766	6.03E-50	9.163955399	8.112342105	0.000658674	ECM_REGULATORS	1.14092065	1.12963128
AGRN	13.90175235	13.21509687	4.99E-26	13.90175235	12.11334737	1.66E-13	ECM_GLYCOPROTEINS	1.051959928	1.147639205
AGRN	13.90175235	13.21509687	4.99E-26	13.90175235	12.11334737	1.66E-13	BASEMENT_MEMBRANES	1.051959928	1.147639205
AMH	5.236961972	4.848428243	0.001209381	5.236961972	3.027705263	3.72E-05	SECRETED_FACTORS	1.080136017	1.729680242
ANXA8	11.65158709	4.785109393	8.50E-275	11.65158709	9.314215789	0.000516304	ECM_AFFILIATED	2.434967758	1.250946655
ANXA8L1	10.58020423	4.967643938	1.29E-236	10.58020423	8.980573684	0.008538186	ECM_AFFILIATED	2.129823385	1.178121198
ARTN	6.706534272	5.254881498	7.79E-45	6.706534272	5.380321053	0.000752408	SECRETED_FACTORS	1.276248432	1.246493324
BGLAP	4.35690939	4.108627296	0.000512104	4.35690939	3.638063158	0.015290344	ECM_GLYCOPROTEINS	1.060429451	1.197590366
BMP8B	8.295197183	7.764558468	7.86E-10	8.295197183	6.823	2.17E-05	SECRETED_FACTORS	1.068341132	1.215769776
C1QTNF6	10.31103357	9.306514889	8.50E-50	10.31103357	8.121321053	8.88E-11	ECM_AFFILIATED	1.107937148	1.269625163
CILP2	7.275610329	6.343231661	2.99E-13	7.275610329	6.138336842	0.012586779	ECM_GLYCOPROTEINS	1.146987958	1.18527388
COL7A1	11.97113592	8.794812919	2.10E-154	11.97113592	9.903873684	4.32E-06	COLLAGENS	1.361158677	1.208732694
CRELD2	10.47152183	10.36891182	0.01382132	10.47152183	9.878978947	6.36E-05	ECM_GLYCOPROTEINS	1.009895929	1.059980175
CRLF3	9.197746244	8.999731443	6.14E-06	9.197746244	8.808263158	0.009024251	SECRETED_FACTORS	1.022002301	1.044217921
CSF2	3.33911784	1.803928526	1.50E-50	3.33911784	1.822131579	0.003154082	SECRETED_FACTORS	1.851025576	1.832533873
CST1	7.005861268	4.974311134	3.28E-23	7.005861268	1.745789474	3.94E-10	ECM_REGULATORS	1.408408336	4.013004645
CST4	2.762000469	2.18324754	5.14E-06	2.762000469	0.305052632	4.39E-05	ECM_REGULATORS	1.265088094	9.054176832
CST6	7.884665023	4.590093753	1.06E-93	7.884665023	4.2427	6.03E-08	ECM_REGULATORS	1.717756858	1.858407388
CSTB	14.09110117	12.46795209	2.03E-186	14.09110117	13.17565789	0.00142052	ECM_REGULATORS	1.130185701	1.069479891
CSTL1	1.070446714	0.531965836	1.95E-28	1.070446714	0.284042105	0.005122323	ECM_REGULATORS	2.012247106	3.768619841
CTSC	12.55440023	12.06247845	1.00E-10	12.55440023	11.67459474	0.003377666	ECM_REGULATORS	1.040781153	1.075360689
CTSV	7.726790376	7.038075392	1.68E-08	7.726790376	4.742310526	1.06E-07	ECM_REGULATORS	1.097855585	1.62933033
CXCL10	8.583020892	8.216557989	0.005029977	8.583020892	6.800926316	0.007449772	SECRETED_FACTORS	1.044600538	1.262037036
CXCL11	6.708001408	6.317128309	0.00255089	6.708001408	4.597552632	0.002263282	SECRETED_FACTORS	1.061875124	1.459037437
FBN2	7.915163146	7.06951108	2.92E-11	7.915163146	5.910757895	0.001588643	ECM_GLYCOPROTEINS	1.119619597	1.339111377
FGF11	8.668219249	7.455610263	1.17E-29	8.668219249	6.440526316	9.36E-09	SECRETED_FACTORS	1.162643827	1.345886784
FGF22	2.83116831	2.463297225	5.50E-07	2.83116831	1.718405263	0.002829261	SECRETED_FACTORS	1.149340925	1.647555656
GPC2	6.45205446	5.528092229	2.36E-18	6.45205446	4.052568421	1.76E-07	ECM_AFFILIATED	1.167139438	1.592090198
IBSP	3.764347887	3.203609632	2.29E-05	3.764347887	0.972478947	1.48E-08	ECM_GLYCOPROTEINS	1.175033265	3.870878539
IGFBP3	14.281373	12.2994363	7.27E-78	14.281373	13.22118947	0.020110549	ECM_GLYCOPROTEINS	1.161140451	1.080188211
KCP	6.800561268	5.804015945	9.08E-18	6.800561268	5.564557895	0.002300065	ECM_GLYCOPROTEINS	1.171699274	1.222120678
LAMC2	11.65576643	9.673943753	1.09E-25	11.65576643	9.537847368	0.00011555	BASEMENT_MEMBRANES	1.204861919	1.2220542
LAMC2	11.65576643	9.673943753	1.09E-25	11.65576643	9.537847368	0.00011555	ECM_GLYCOPROTEINS	1.204861919	1.2220542
MFAP2	10.59084859	8.904379745	1.85E-35	10.59084859	9.144368421	0.000324495	ECM_GLYCOPROTEINS	1.189397678	1.158182622
MMP1	9.425970188	6.509346419	6.66E-53	9.425970188	6.772257895	0.000123623	ECM_REGULATORS	1.448067069	1.391850448
MMP11	11.07585939	9.817103461	7.49E-19	11.07585939	7.310157895	8.34E-11	ECM_REGULATORS	1.128220705	1.515132717

<b>MMP13</b>	7.082378404	3.879871474	1.21E-64	7.082378404	4.106521053	0.000156658	ECM_REGULATORS	1.825415726	1.724666284
<b>MMP14</b>	13.92918075	12.80056123	6.60E-39	13.92918075	13.11161579	0.000477349	ECM_REGULATORS	1.088169534	1.062354249
<b>MUC1</b>	11.91359061	10.78351914	1.52E-11	11.91359061	10.87316316	0.04013872	ECM_AFFILIATED	1.104796166	1.095687652
<b>NGLY1</b>	10.23802629	9.998852786	2.48E-17	10.23802629	9.861	0.01289566	ECM_REGULATORS	1.023920095	1.038234083
<b>OGFOD2</b>	9.251956808	9.057151916	5.19E-09	9.251956808	8.429194737	2.32E-09	ECM_REGULATORS	1.021508405	1.097608621
<b>PI3</b>	7.259658216	5.227828624	1.29E-23	7.259658216	4.734778947	0.01322405	ECM_REGULATORS	1.388656503	1.533262333
<b>PLAU</b>	11.96070164	10.34115838	5.43E-57	11.96070164	10.29175263	3.55E-05	ECM_REGULATORS	1.156611397	1.162163732
<b>PLXNA1</b>	12.07676033	11.39477878	8.98E-28	12.07676033	10.85537895	2.39E-09	ECM_AFFILIATED	1.059850355	1.112513933
<b>PLXNA3</b>	10.97967207	10.76621741	8.71E-05	10.97967207	10.06305263	3.96E-06	ECM_AFFILIATED	1.019826337	1.091087612
<b>PLXNB1</b>	12.23144671	11.86658829	3.93E-09	12.23144671	11.67024737	0.015825355	ECM_AFFILIATED	1.0307467	1.048088042
<b>PLXNB2</b>	13.88605469	13.65677356	2.09E-07	13.88605469	13.33291579	0.00062951	ECM_AFFILIATED	1.016788821	1.041486717
<b>PODNL1</b>	7.170835446	6.502546702	1.16E-09	7.170835446	6.005647368	0.005747984	PROTEOGLYCANS	1.102773386	1.1940154
<b>SDC1</b>	15.07955986	12.08857194	4.18E-127	15.07955986	13.05611053	3.91E-06	ECM_AFFILIATED	1.247422767	1.15498102
<b>SEMA3F</b>	12.19489437	10.42783493	3.47E-85	12.19489437	11.19094211	0.000843151	ECM_AFFILIATED	1.169456023	1.089711148
<b>SEMA4A</b>	10.42443779	9.607952449	2.77E-23	10.42443779	9.666847368	0.007532765	ECM_AFFILIATED	1.084980161	1.078369958
<b>SERPINB7</b>	3.849569014	2.707530387	9.10E-16	3.849569014	1.931789474	0.011601618	ECM_REGULATORS	1.421800853	1.992747691
<b>SERPINH1</b>	13.24035986	12.63826873	3.55E-18	13.24035986	12.50153158	0.000350843	ECM_REGULATORS	1.047640317	1.059099021
<b>ST14</b>	13.13931338	11.50465816	2.75E-36	13.13931338	11.02842105	1.24E-09	ECM_REGULATORS	1.142086379	1.191404764
<b>TGM1</b>	6.711450469	5.825268317	4.29E-15	6.711450469	5.356357895	0.02186771	ECM_REGULATORS	1.152127268	1.252987683
<b>TINAGL1</b>	13.15127606	10.43268998	2.33E-160	13.15127606	11.80057368	0.000259702	ECM_GLYCOPROTEINS	1.260583424	1.114460738
<b>WNT2</b>	6.729144366	5.484353537	1.46E-16	6.729144366	5.331673684	0.007961143	SECRETED_FACTORS	1.226971296	1.262107317
<b>WNT7B</b>	10.77480469	6.71497389	3.75E-117	10.77480469	8.947252632	0.000455452	SECRETED_FACTORS	1.604593684	1.204258462
<b>VWA9</b>	10.72438122	10.62042746	5.26E-06	10.72438122	10.28326316	5.17E-06	ECM_GLYCOPROTEINS	1.009788096	1.042896701
<b>XCL1</b>	5.347624648	4.009227797	2.64E-41	5.347624648	4.1363	0.015620247	SECRETED_FACTORS	1.333829086	1.292852222
<b>ZP1</b>	3.093282394	2.134271343	1.16E-27	3.093282394	2.069978947	0.024657011	ECM_GLYCOPROTEINS	1.44933886	1.494354519
<b>ZP3</b>	8.14135892	7.723563354	2.02E-08	8.14135892	6.9137	5.36E-05	ECM_GLYCOPROTEINS	1.054093628	1.177569018

**Breast Invasive Carcinoma (BRCA)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
ADAM12	11.19590792	8.101521606	0	11.19590792	10.1097823	2.37E-13	ECM_REGULATORS	1.381951251	1.107433136
ADAM15	12.79624818	12.08449769	2.66E-130	12.79624818	12.21976726	8.01E-14	ECM_REGULATORS	1.058897814	1.047176097
ADAM19	9.231910561	9.03442828	7.44E-05	9.231910561	7.865879646	4.47E-31	ECM_REGULATORS	1.021858858	1.173665372
ADAM8	8.995519637	8.863581111	0.014808551	8.995519637	7.071266372	3.64E-46	ECM_REGULATORS	1.014885465	1.272122865
ADAMDEC1	6.726510809	6.040641488	4.02E-16	6.726510809	4.366595575	3.92E-25	ECM_REGULATORS	1.113542464	1.540447402
ADAMTS12	10.0917948	7.748959429	2.68E-247	10.0917948	9.522889381	9.89E-06	ECM_REGULATORS	1.302341933	1.059740841
ADAMTS14	7.025099917	6.658865499	1.06E-08	7.025099917	4.002469027	1.13E-67	ECM_REGULATORS	1.054999522	1.755191576
ADAMTS19	4.078201073	2.049047957	2.57E-144	4.078201073	3.520021239	0.022404181	ECM_REGULATORS	1.99029069	1.15857286
ADAMTS2	11.13285355	9.291421757	1.48E-195	11.13285355	10.8693115	0.033130686	ECM_REGULATORS	1.198186224	1.024246434
ADAMTS4	9.926613119	9.072732518	6.73E-50	9.926613119	8.837130088	1.84E-17	ECM_REGULATORS	1.094115042	1.123284711
ADAMTS6	6.533623845	5.670886954	2.09E-57	6.533623845	5.649369912	8.14E-14	ECM_REGULATORS	1.152134384	1.156522576
AEBP1	14.11790116	12.64730093	5.66E-137	14.11790116	13.32998496	3.52E-10	ECM_GLYCOPROTEINS	1.116277792	1.059108559
ANXA9	9.221688201	7.158920787	5.01E-250	9.221688201	7.721292035	6.92E-15	ECM_AFFILIATED	1.288139438	1.194319313
ARTN	6.027754455	5.44294193	9.81E-19	6.027754455	3.700948673	1.21E-35	SECRETED_FACTORS	1.107444197	1.628705229
ASPN	10.85226584	8.067378749	9.21E-310	10.85226584	9.606749558	6.14E-11	PROTEOGLYCANS	1.345203464	1.129650125
ASTL	2.739997277	1.835842965	6.14E-84	2.739997277	1.906823894	1.34E-09	ECM_REGULATORS	1.4925009	1.436943016
BGN	14.15985974	13.10687878	6.89E-68	14.15985974	12.11389115	5.61E-58	PROTEOGLYCANS	1.08033804	1.168894417
BMP8A	4.429501073	4.227535849	0.000477827	4.429501073	2.102295575	8.48E-49	SECRETED_FACTORS	1.047773746	2.106983016
C1QTNF3	8.956812211	7.80146041	1.55E-86	8.956812211	8.403404425	0.000246848	ECM_AFFILIATED	1.148094298	1.065855189
C1QTNF5	9.492984241	9.318128108	0.000454985	9.492984241	8.976244248	3.90E-06	ECM_AFFILIATED	1.018765157	1.057567506
C1QTNF6	10.15712583	9.294827073	4.40E-94	10.15712583	8.323367257	1.41E-56	ECM_AFFILIATED	1.092771898	1.220314509
CBLN2	4.329558086	2.674656668	4.53E-90	4.329558086	2.476847788	8.31E-09	SECRETED_FACTORS	1.618734149	1.748011366
CCL11	4.508605776	3.972758329	8.09E-10	4.508605776	1.525281416	9.88E-59	SECRETED_FACTORS	1.134880454	2.955917333
CCL3L3	5.792204868	5.477302221	8.97E-08	5.792204868	5.457149558	0.041997464	SECRETED_FACTORS	1.05749229	1.061397495
CHRD	8.816179455	7.498267817	1.22E-105	8.816179455	8.403622124	0.015938586	SECRETED_FACTORS	1.175762145	1.049092799
CILP2	8.208411386	6.093446911	2.58E-169	8.208411386	5.573426549	2.11E-53	ECM_GLYCOPROTEINS	1.347088357	1.472776453
CLEC2D	8.61132797	8.129157606	1.91E-34	8.61132797	8.396769027	0.019864075	ECM_AFFILIATED	1.059313694	1.02555256
CLEC3A	5.26575198	0.845965876	0	5.26575198	3.778562832	0.003093898	ECM_AFFILIATED	6.224544192	1.393585925
CLEC4C	1.534906353	1.075521466	2.80E-27	1.534906353	1.126680531	0.00789767	ECM_AFFILIATED	1.427127585	1.362326153
CLEC5A	6.987062129	6.123436604	1.50E-38	6.987062129	4.417784071	3.15E-50	ECM_AFFILIATED	1.141036085	1.581576197
CLEC7A	8.064476733	7.731135127	5.34E-10	8.064476733	7.32900354	5.52E-09	ECM_AFFILIATED	1.043116774	1.100351049
COL10A1	10.71988729	6.345894167	0	10.71988729	4.555057522	2.14E-97	COLLAGENS	1.689263485	2.353403276
COL11A1	10.98253185	6.949527019	5.10E-278	10.98253185	6.218397345	1.01E-62	COLLAGENS	1.580327959	1.766135427
COL12A1	13.67459901	10.98841381	2.24E-272	13.67459901	12.72750177	2.64E-11	COLLAGENS	1.244456138	1.074413444
COL1A1	17.03852649	14.43435341	6.27E-178	17.03852649	14.88682301	2.66E-37	COLLAGENS	1.180414945	1.144537453
COL1A2	16.69530239	14.2028013	1.11E-218	16.69530239	15.43880796	7.99E-17	COLLAGENS	1.175493625	1.081385456
COL24A1	6.21422632	5.215554943	9.82E-60	6.21422632	5.11490177	8.81E-23	COLLAGENS	1.191479409	1.214925838
COL3A1	16.56689051	13.96613871	2.83E-193	16.56689051	15.33594779	2.59E-15	COLLAGENS	1.186218386	1.080265187
COL5A1	13.41435545	11.60679847	1.30E-134	13.41435545	11.80284602	7.73E-30	COLLAGENS	1.155732606	1.136535665
COL5A2	13.52663259	11.24220768	2.07E-265	13.52663259	12.10333186	1.84E-23	COLLAGENS	1.20320074	1.117595779
COL6A1	14.25884546	13.08448322	2.69E-112	14.25884546	13.96310708	0.010616075	COLLAGENS	1.089752283	1.021179984
COL6A1	14.25884546	13.08448322	2.69E-112	14.25884546	13.96310708	0.010616075	BASEMENT_MEMBRANES	1.089752283	1.021179984

COL6A3	14.9025684	12.33135763	3.29E-219	14.9025684	14.35101062	3.24E-05	COLLAGENS	1.208509951	1.038433375
COL6A3	14.9025684	12.33135763	3.29E-219	14.9025684	14.35101062	3.24E-05	BASEMENT_MEMBRANES	1.208509951	1.038433375
COL8A1	11.25208771	9.600373445	1.42E-93	11.25208771	10.37454602	1.70E-09	COLLAGENS	1.172046876	1.084586033
COL9A2	8.980872937	8.720633941	6.77E-05	8.980872937	8.568457522	0.012601236	COLLAGENS	1.029841752	1.048131815
COMP	10.73491832	6.775507407	1.28E-271	10.73491832	6.659666372	1.14E-58	ECM_GLYCOPROTEINS	1.584371129	1.611930346
CPN2	2.953881353	2.172646889	4.72E-17	2.953881353	2.144440708	2.07E-07	ECM_REGULATORS	1.359577282	1.377460026
CST1	6.66099571	4.906725585	6.61E-45	6.66099571	1.230035398	4.82E-51	ECM_REGULATORS	1.357523586	5.415287819
CST11	0.390252888	0.184632884	5.70E-26	0.390252888	0.199652212	0.033106205	ECM_REGULATORS	2.113669457	1.954663478
CST2	4.861715842	3.441381013	2.21E-61	4.861715842	1.595419469	7.98E-39	ECM_REGULATORS	1.412722341	3.047296298
CST4	3.596259571	1.970130491	1.28E-99	3.596259571	0.398417699	3.58E-27	ECM_REGULATORS	1.825391561	9.026354951
CST5	2.551666337	1.531283838	8.85E-50	2.551666337	0.572423894	2.47E-10	ECM_REGULATORS	1.666357518	4.457651688
CST6	5.603691089	4.902758889	3.75E-12	5.603691089	4.184513274	3.75E-12	ECM_REGULATORS	1.142966892	1.339150033
CST9L	1.381228713	0.141443978	0	1.381228713	0.780349558	0.001502618	ECM_REGULATORS	9.765199821	1.77001281
CTHRC1	11.12223218	8.809608399	2.07E-203	11.12223218	8.909548673	6.80E-51	ECM_GLYCOPROTEINS	1.26251153	1.248349674
CTSZ	12.90454992	12.82921038	0.025801514	12.90454992	12.7363885	0.017109774	ECM_REGULATORS	1.0058725	1.013203226
CXCL10	9.270857096	8.278241186	8.30E-34	9.270857096	6.749662832	1.09E-34	SECRETED_FACTORS	1.119906619	1.373528919
CXCL11	7.374035479	6.360275914	1.22E-35	7.374035479	4.805169912	1.47E-32	SECRETED_FACTORS	1.159389243	1.534604523
CXCL13	7.47847302	6.199152873	1.64E-35	7.47847302	5.382593805	7.18E-12	SECRETED_FACTORS	1.206370156	1.389380899
CXCL9	10.04744134	8.820906361	3.01E-42	10.04744134	8.153427434	3.21E-16	SECRETED_FACTORS	1.139048633	1.232296653
ECM1	10.89193003	9.933208323	3.38E-57	10.89193003	9.980565487	8.28E-08	ECM_GLYCOPROTEINS	1.096516823	1.091313919
EGLN2	11.56296997	11.41214976	1.06E-13	11.56296997	11.02280973	3.34E-11	ECM_REGULATORS	1.013215758	1.049003861
EGLN3	9.838346617	9.588150307	0.000550771	9.838346617	8.81889646	2.20E-12	ECM_REGULATORS	1.026094325	1.115598381
EMILIN1	10.94591188	10.63250712	3.07E-08	10.94591188	10.58356814	0.004561431	ECM_GLYCOPROTEINS	1.029476093	1.034236444
EPO	2.382876815	2.091021251	2.90E-06	2.382876815	1.449641593	9.31E-07	SECRETED_FACTORS	1.139575609	1.643769623
EPYC	4.802066914	2.286165035	6.81E-199	4.802066914	1.204872566	1.46E-40	PROTEOGLYCANS	2.100490052	3.985539258
F12	7.398298927	7.213070739	0.014121616	7.398298927	4.965949558	1.62E-47	ECM_REGULATORS	1.025679519	1.489805493
F7	6.188980528	3.564751849	3.47E-189	6.188980528	4.734643363	5.94E-09	ECM_REGULATORS	1.736160269	1.307169316
FBN2	7.363150248	7.174418415	0.017468006	7.363150248	5.314756637	6.84E-28	ECM_GLYCOPROTEINS	1.02630622	1.385416257
FN1	16.61292409	14.97522479	2.13E-117	16.61292409	14.16118673	2.15E-50	ECM_GLYCOPROTEINS	1.109360582	1.173130784
FNDC1	10.55541436	7.880639849	5.32E-182	10.55541436	8.990941593	5.46E-20	ECM_GLYCOPROTEINS	1.339410829	1.174005442
GPC4	10.52031955	9.860518846	6.49E-23	10.52031955	9.99779469	6.28E-05	ECM_AFFILIATED	1.066913386	1.052264012
GREM1	10.02564703	7.748169747	1.19E-101	10.02564703	9.21980885	5.34E-06	ECM_AFFILIATED	1.293937453	1.087402916
HPX	7.685981353	4.633679116	5.00E-235	7.685981353	6.819457522	0.000210855	ECM_AFFILIATED	1.658721107	1.127066387
HTRA3	11.1885882	9.009517531	4.55E-198	11.1885882	10.80110354	0.00963821	ECM_REGULATORS	1.241863192	1.035874544
HTRA4	3.63617104	3.344919191	7.39E-07	3.63617104	2.610073451	1.87E-12	ECM_REGULATORS	1.08707291	1.393129775
IBSP	4.822415842	3.067219224	5.81E-107	4.822415842	0.582378761	2.49E-64	ECM_GLYCOPROTEINS	1.572243615	8.280548955
IGFALS	5.341866007	4.327864173	1.79E-40	5.341866007	3.742167257	5.38E-12	ECM_GLYCOPROTEINS	1.234296132	1.427479223
ITIH6	6.644765429	2.185747159	0	6.644765429	5.766893805	6.35E-05	ECM_REGULATORS	3.040043036	1.152226078
KAZALD1	8.170065347	7.313407137	8.21E-58	8.170065347	7.472739823	5.69E-07	ECM_REGULATORS	1.11713531	1.093315911
LGALS8	12.09642269	11.18617164	9.45E-261	12.09642269	11.81871504	0.000294775	ECM_AFFILIATED	1.081372884	1.023497279
LMAN1	12.64168894	12.34899995	5.67E-31	12.64168894	12.46526106	0.004513533	ECM_AFFILIATED	1.023701433	1.014153565
LOXL1	10.53321056	9.065306922	1.42E-135	10.53321056	9.360351327	6.94E-26	ECM_REGULATORS	1.161925421	1.125300771
LOXL2	10.98485809	10.06401344	1.56E-67	10.98485809	10.67768761	0.002987589	ECM_REGULATORS	1.091498749	1.028767509
LRG1	9.093024175	8.25288841	2.79E-20	9.093024175	8.268236283	0.001134478	ECM_GLYCOPROTEINS	1.101798997	1.099753788
MATN3	8.880825495	6.175853337	0	8.880825495	6.888699115	8.33E-31	ECM_GLYCOPROTEINS	1.437991644	1.289187602
MEPE	1.384993152	0.961013164	3.53E-20	1.384993152	0.745264602	2.30E-05	ECM_GLYCOPROTEINS	1.441180208	1.858391165
MFAP2	10.33492979	8.962394997	2.08E-62	10.33492979	8.470486726	2.38E-39	ECM_GLYCOPROTEINS	1.153143751	1.220110499



MMP10	5.356848185	4.605390232	1.25E-11	5.356848185	3.10069646	2.46E-20	ECM_REGULATORS	1.163169225	1.727627407
MMP11	12.44898465	9.670908582	6.63E-235	12.44898465	7.228453097	6.74E-98	ECM_REGULATORS	1.287261124	1.722219745
MMP13	7.764369967	3.946611903	1.22E-222	7.764369967	2.410757522	1.01E-65	ECM_REGULATORS	1.96735077	3.220717926
MMP14	13.5252085	12.86777279	8.58E-36	13.5252085	12.61523274	2.38E-17	ECM_REGULATORS	1.051091647	1.072133093
MMP17	7.250313531	6.509288442	3.34E-26	7.250313531	6.794683186	0.001449483	ECM_REGULATORS	1.113841182	1.067056893
MMP25	6.704895215	6.279096507	1.09E-20	6.704895215	6.148525664	0.000294572	ECM_REGULATORS	1.067812098	1.090488286
MMP3	7.705482096	4.169840539	5.49E-205	7.705482096	5.800159292	5.54E-18	ECM_REGULATORS	1.847908097	1.32849491
MMP8	2.153475743	1.971380733	0.008960725	2.153475743	1.63380177	0.006195267	ECM_REGULATORS	1.092369275	1.318076515
MMP9	10.48125355	9.226251439	3.54E-48	10.48125355	8.034178761	7.38E-30	ECM_REGULATORS	1.136025136	1.304583064
MUC1	13.19909579	10.57323003	1.40E-154	13.19909579	11.04934513	1.65E-23	ECM_AFFILIATED	1.248350387	1.194559101
MUC19	3.101980693	1.334942221	1.22E-201	3.101980693	2.287080531	0.002309737	ECM_AFFILIATED	2.323681613	1.356305845
MUC5B	8.942969472	5.717493283	3.02E-121	8.942969472	8.176951327	0.02555344	ECM_AFFILIATED	1.564141667	1.093680164
MXRA5	13.23535982	10.75513288	2.64E-235	13.23535982	12.54451327	5.01E-08	ECM_GLYCOPROTEINS	1.230608674	1.05507161
NELL2	8.656212211	7.734769057	5.46E-29	8.656212211	7.44449469	1.47E-07	ECM_GLYCOPROTEINS	1.119130015	1.162766927
NID2	10.24610561	9.071591817	2.69E-89	10.24610561	9.864915044	0.001710855	BASEMENT_MEMBRANES	1.129471632	1.038641039
NID2	10.24610561	9.071591817	2.69E-89	10.24610561	9.864915044	0.001710855	ECM_GLYCOPROTEINS	1.129471632	1.038641039
NPNT	11.77287764	10.01168541	3.34E-104	11.77287764	10.62509027	3.54E-11	ECM_GLYCOPROTEINS	1.17591366	1.108026129
NPNT	11.77287764	10.01168541	3.34E-104	11.77287764	10.62509027	3.54E-11	BASEMENT_MEMBRANES	1.17591366	1.108026129
OVGP1	6.545292822	6.288373477	3.82E-07	6.545292822	6.278546018	0.015834342	ECM_AFFILIATED	1.040856248	1.042485442
P4HA1	11.2767755	11.12019723	2.66E-07	11.2767755	10.62365929	1.40E-16	ECM_REGULATORS	1.01408053	1.061477518
P4HA2	10.8671066	10.6819488	2.33E-05	10.8671066	10.36848584	2.40E-13	ECM_REGULATORS	1.01733371	1.048090027
P4HA3	7.752185891	6.198792765	7.98E-158	7.752185891	5.441364602	4.49E-51	ECM_REGULATORS	1.250596073	1.424676797
P4HTM	10.39121955	10.29687822	0.017261499	10.39121955	9.792789381	3.37E-10	ECM_REGULATORS	1.00916213	1.061109266
PLAU	11.14789464	10.51843826	1.54E-22	11.14789464	10.34973274	2.06E-11	ECM_REGULATORS	1.05984314	1.077119083
PLXNA3	11.03704348	10.69795725	2.85E-24	11.03704348	10.14113717	6.08E-34	ECM_AFFILIATED	1.031696353	1.088343772
PLXNC1	10.24305536	9.587126836	3.52E-40	10.24305536	9.93779646	0.003134786	ECM_AFFILIATED	1.068417633	1.030716961
PODNL1	8.022631188	6.462424097	8.55E-123	8.022631188	7.432354867	1.63E-05	PROTEOGLYCANS	1.241427531	1.079419825
POSTN	14.51958952	10.38214502	0	14.51958952	12.87884602	8.10E-24	ECM_GLYCOPROTEINS	1.398515383	1.127398332
PXDNL	5.735522442	4.37468372	7.78E-109	5.735522442	5.006071681	0.000226227	ECM_GLYCOPROTEINS	1.311071339	1.145713207
SDC1	13.08792186	12.38498878	6.79E-19	13.08792186	11.1843	3.13E-34	ECM_AFFILIATED	1.056756861	1.170204829
SDC4	13.23332781	12.80626996	3.90E-16	13.23332781	13.01846195	0.016609306	ECM_AFFILIATED	1.033347559	1.016504704
SEMA3F	11.5286231	10.50643084	1.01E-76	11.5286231	10.68371062	3.28E-21	ECM_AFFILIATED	1.097292057	1.079084179
SEMA4A	10.26598795	9.652725305	3.88E-35	10.26598795	9.53340177	1.29E-13	ECM_AFFILIATED	1.063532591	1.076844153
SEMA4C	10.8784269	10.76954493	0.000115669	10.8784269	10.59589381	9.94E-05	ECM_AFFILIATED	1.010110174	1.026664394
SERPINA12	2.273342409	0.784366038	6.28E-197	2.273342409	1.763317699	0.003463727	ECM_REGULATORS	2.898318259	1.289241531
SERPINA3	13.40453251	8.72563917	4.71E-293	13.40453251	12.56724248	0.000112265	ECM_REGULATORS	1.536223565	1.066624801
SERPINA9	2.433109158	1.232506092	7.94E-103	2.433109158	1.019859292	1.54E-15	ECM_REGULATORS	1.974115321	2.385730245
SERPINH1	12.9210047	12.66867659	2.23E-09	12.9210047	12.24689381	1.03E-14	ECM_REGULATORS	1.01991748	1.055043418
SPOCK1	10.01728688	9.265470566	7.67E-19	10.01728688	9.688836283	0.025913676	PROTEOGLYCANS	1.08114173	1.033899902
ST14	12.17680759	11.66179909	5.94E-11	12.17680759	11.06404779	2.21E-23	ECM_REGULATORS	1.044162011	1.100574385
SULF1	12.71079884	10.817344	1.68E-145	12.71079884	11.42015575	1.60E-22	ECM_REGULATORS	1.175038794	1.113014491
SULF2	12.76129191	11.67624188	1.06E-103	12.76129191	12.12462301	1.12E-08	ECM_REGULATORS	1.09292802	1.052510408
THBS2	13.01113729	10.91948638	1.47E-203	13.01113729	12.29882124	4.49E-07	ECM_GLYCOPROTEINS	1.191552133	1.057917425
TNFAIP6	8.225396782	6.293037617	4.43E-144	8.225396782	7.612272566	3.77E-07	ECM_GLYCOPROTEINS	1.307063025	1.080544175
TNR	3.775593069	3.526543278	0.019248055	3.775593069	2.500474336	1.26E-12	ECM_GLYCOPROTEINS	1.070621504	1.509950738
VCAN	13.26468837	11.47016127	3.51E-142	13.26468837	12.02102655	2.37E-17	PROTEOGLYCANS	1.156451775	1.103457206
WISP1	8.78589604	7.146855148	3.90E-124	8.78589604	5.790788496	1.63E-66	ECM_GLYCOPROTEINS	1.22933736	1.517219295

<b>WNT2</b>	7.841377888	5.318455288	7.54E-174	7.841377888	7.12390885	6.33E-06	SECRETED_FACTORS	1.474371309	1.100712832
<b>WNT7B</b>	8.722412624	7.031001003	1.74E-52	8.722412624	6.962693805	8.76E-20	SECRETED_FACTORS	1.240564839	1.252735345
<b>WNT9A</b>	8.119590347	6.78354759	1.15E-92	8.119590347	7.795253097	0.006722567	SECRETED_FACTORS	1.196953399	1.04160702
<b>VWA9</b>	10.79560215	10.60224113	5.80E-44	10.79560215	10.5004469	1.74E-13	ECM_GLYCOPROTEINS	1.018237749	1.028108827
<b>ZP3</b>	8.164847855	7.748374706	3.71E-20	8.164847855	7.484613274	1.09E-10	ECM_GLYCOPROTEINS	1.053749743	1.090884399
<b>ZP4</b>	0.627632096	0.328370016	3.30E-21	0.627632096	0.053215044	1.56E-06	ECM_GLYCOPROTEINS	1.91135629	11.79426053
<b>ZPLD1</b>	3.564240264	2.122234415	2.85E-112	3.564240264	2.813462832	0.000335311	ECM_GLYCOPROTEINS	1.679475292	1.266851733

**Cervical and endocervical cancer (CESC)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
A2ML1	9.514129126	3.790856356	3.82E-163	9.514129126	4.331966667	0.018090263	ECM_REGULATORS	2.509757224	2.196260927
ADAM17	10.49418641	10.14128815	5.50E-08	10.49418641	8.909466667	0.0128704	ECM_REGULATORS	1.034798169	1.177869204
ADAM8	10.43366667	8.674758783	1.90E-69	10.43366667	7.911233333	0.002841297	ECM_REGULATORS	1.20276159	1.318841984
ADAMDEC1	6.688965696	6.075688093	0.000148448	6.688965696	2.300133333	0.000776409	ECM_REGULATORS	1.100939613	2.90807737
AGRN	13.66198803	13.21509687	3.90E-09	13.66198803	11.835	0.000661704	ECM_GLYCOPROTEINS	1.033816715	1.154371612
AGRN	13.66198803	13.21509687	3.90E-09	13.66198803	11.835	0.000661704	BASEMENT_MEMBRANES	1.033816715	1.154371612
AMH	6.195443366	4.848428243	8.55E-22	6.195443366	2.708133333	0.007704271	SECRETED_FACTORS	1.277825113	2.287717259
ANXA1	14.4732835	12.33281074	4.07E-80	14.4732835	12.6937	0.040766622	ECM_AFFILIATED	1.173559199	1.14019423
ANXA2	15.80602945	14.32990725	4.13E-65	15.80602945	14.39736667	0.002895733	ECM_AFFILIATED	1.103009892	1.097841697
ANXA3	10.71969223	9.057695951	7.63E-26	10.71969223	8.7174	0.019638957	ECM_AFFILIATED	1.183489962	1.229689154
ANXA8	11.67643366	4.785109393	2.82E-204	11.67643366	4.564766667	0.000295087	ECM_AFFILIATED	2.440160234	2.557947538
ANXA8L1	10.66219126	4.967643938	1.72E-178	10.66219126	4.1037	0.000817142	ECM_AFFILIATED	2.146327594	2.598189746
ARTN	7.170338188	5.254881498	2.86E-56	7.170338188	4.701466667	0.0170519	SECRETED_FACTORS	1.364509969	1.525127943
BMP8B	8.575183495	7.764558468	6.45E-16	8.575183495	6.360633333	0.000113741	SECRETED_FACTORS	1.10440066	1.34816504
CCL18	7.500533333	6.932424042	0.003694628	7.500533333	2.386666667	0.000242165	SECRETED_FACTORS	1.081949588	3.142681564
CCL20	8.072576052	5.783442632	8.18E-31	8.072576052	4.917366667	0.031984335	SECRETED_FACTORS	1.395808097	1.641646149
CCL22	7.255526861	5.806754854	1.70E-26	7.255526861	4.419433333	0.003559671	SECRETED_FACTORS	1.249497704	1.641732393
CLEC7A	8.239785113	7.68305222	3.15E-08	8.239785113	5.961333333	0.044479298	ECM_AFFILIATED	1.072462464	1.382205063
COL17A1	10.73218964	7.260558424	1.71E-53	10.73218964	5.7598	0.007505702	COLLAGENS	1.47814934	1.863292066
COL7A1	12.93183301	8.794812919	6.81E-190	12.93183301	9.363666667	0.000491744	COLLAGENS	1.470393188	1.381065075
CRLF3	9.310138511	8.999731443	1.45E-09	9.310138511	8.211066667	0.003994024	SECRETED_FACTORS	1.034490703	1.133852505
CSF2	3.413646602	1.803928526	1.14E-41	3.413646602	0.7561	0.016659252	SECRETED_FACTORS	1.892340274	4.514808361
CSH2	2.149573463	0.354145385	8.59E-179	2.149573463	0	0.046514588	SECRETED_FACTORS	6.069748618	Inf
CSPG5	6.559236246	6.174499793	0.01079021	6.559236246	4.634366667	0.028647139	ECM_AFFILIATED	1.062310546	1.415346846
CST6	7.385954369	4.590093753	4.15E-51	7.385954369	3.7497	0.009790189	ECM_REGULATORS	1.609107519	1.969745411
CSTA	11.43617476	7.004722236	4.55E-186	11.43617476	4.915966667	0.000953433	ECM_REGULATORS	1.632637865	2.326332852
CSTB	14.16081489	12.46795209	1.21E-149	14.16081489	11.84826667	0.002293596	ECM_REGULATORS	1.135777134	1.195180298
CTSC	12.51150065	12.06247845	3.96E-07	12.51150065	10.89746667	0.007951758	ECM_REGULATORS	1.037224705	1.148110935
CTSV	10.61893883	7.038075392	1.32E-137	10.61893883	4.943066667	2.38E-11	ECM_REGULATORS	1.508784468	2.148249164
CXCL1	10.39414887	6.587876067	8.26E-92	10.39414887	6.949066667	0.015082424	SECRETED_FACTORS	1.577769339	1.495761858
CXCL10	10.13062816	8.216557989	3.17E-36	10.13062816	5.570766667	0.002130547	SECRETED_FACTORS	1.232952797	1.818533922
CXCL11	8.039445955	6.317128309	3.30E-30	8.039445955	4.231933333	0.014145033	SECRETED_FACTORS	1.272642499	1.899709972
CXCL13	7.595131715	6.126360231	6.26E-14	7.595131715	4.0281	0.024522538	SECRETED_FACTORS	1.239746184	1.885537031
CXCL8	9.849922654	7.774415085	7.59E-38	9.849922654	6.272466667	0.006527141	SECRETED_FACTORS	1.266966395	1.570342766
CXCL9	9.975141748	8.855705986	5.50E-11	9.975141748	5.6245	0.003535258	SECRETED_FACTORS	1.126408415	1.773516179
EGFL6	7.558454369	5.613663158	4.76E-28	7.558454369	5.244433333	0.019497922	SECRETED_FACTORS	1.346438886	1.441233759
EPGN	3.593149838	1.466454027	4.48E-71	3.593149838	0	0.02952027	SECRETED_FACTORS	2.450230128	Inf
F12	8.728497411	7.072578026	3.38E-30	8.728497411	3.194466667	7.86E-12	ECM_REGULATORS	1.23413236	2.732380182
FGF11	8.97988932	7.455610263	8.71E-34	8.97988932	6.3231	0.011927717	SECRETED_FACTORS	1.204447256	1.42017196
GPC1	12.49667476	11.38650372	1.62E-37	12.49667476	10.93086667	0.026321674	ECM_AFFILIATED	1.097498851	1.143246472
GPC2	6.396338511	5.528092229	1.68E-12	6.396338511	3.9654	0.013366729	ECM_AFFILIATED	1.157060745	1.613037401

HAPLN1	5.930613916	5.192622214	3.65E-05	5.930613916	0.212233333	5.53E-06	PROTEOGLYCANS	1.142123126	27.94383815
HMSD	6.003397411	2.728630736	3.59E-178	6.003397411	1.237566667	0.000130126	ECM_REGULATORS	2.200150182	4.850968899
HPSE	9.087242395	7.674142349	1.05E-59	9.087242395	7.656833333	0.029770211	ECM_REGULATORS	1.184137847	1.186814705
KCP	8.046039806	5.804015945	3.76E-60	8.046039806	4.7788	0.007103291	ECM_GLYCOPROTEINS	1.38628837	1.683694611
LAMA5	13.05631456	12.24232562	3.13E-22	13.05631456	12.05316667	0.042885483	BASEMENT_MEMBRANES	1.066489731	1.083226917
LAMA5	13.05631456	12.24232562	3.13E-22	13.05631456	12.05316667	0.042885483	ECM_GLYCOPROTEINS	1.066489731	1.083226917
LAMB3	13.57687573	10.41794833	8.09E-89	13.57687573	8.3254	6.97E-07	BASEMENT_MEMBRANES	1.303219722	1.630777588
LAMB3	13.57687573	10.41794833	8.09E-89	13.57687573	8.3254	6.97E-07	ECM_GLYCOPROTEINS	1.303219722	1.630777588
LAMC2	12.93690647	9.673943753	5.17E-49	12.93690647	8.3977	5.24E-05	BASEMENT_MEMBRANES	1.337293952	1.540529725
LAMC2	12.93690647	9.673943753	5.17E-49	12.93690647	8.3977	5.24E-05	ECM_GLYCOPROTEINS	1.337293952	1.540529725
LGALS7	7.793349838	2.063296659	1.17E-298	7.793349838	2.243566667	0.007311368	ECM_AFFILIATED	3.77713491	3.473643085
LGALS9B	5.092482848	2.503604669	4.17E-71	5.092482848	1.7004	0.017770363	ECM_AFFILIATED	2.034060293	2.99487347
LGALS9C	5.864445955	3.418625566	1.35E-66	5.864445955	2.354566667	0.008609733	ECM_AFFILIATED	1.715439682	2.490668894
MMP1	9.011963754	6.509346419	2.03E-29	9.011963754	4.3944	0.005724577	ECM_REGULATORS	1.384465225	2.050783669
MMP11	11.75408317	9.817103461	1.07E-31	11.75408317	9.383	0.029076794	ECM_REGULATORS	1.197306641	1.252699901
MMP12	8.778456634	5.248954386	2.79E-58	8.778456634	4.290566667	0.000830493	ECM_REGULATORS	1.672420065	2.045990033
MMP3	7.5063411	4.050837788	2.61E-60	7.5063411	2.703666667	0.004190837	ECM_REGULATORS	1.853034234	2.776355973
MMP9	10.2367754	9.218202699	4.04E-10	10.2367754	6.0924	0.000256134	ECM_REGULATORS	1.110495803	1.680253333
MUC15	5.837216828	4.400525729	1.47E-09	5.837216828	1.503933333	0.017843318	ECM_AFFILIATED	1.326481695	3.881300254
MUC4	11.87259126	6.398793851	4.39E-138	11.87259126	7.844533333	0.029328503	ECM_AFFILIATED	1.855442063	1.513485985
OGFOD2	9.232738188	9.057151916	6.31E-06	9.232738188	8.5622	0.024241545	ECM_REGULATORS	1.019386478	1.078313773
PI3	11.10691424	5.227828624	1.10E-134	11.10691424	6.0134	0.009358876	ECM_REGULATORS	2.124575046	1.847027346
PLAU	11.87068964	10.34115838	4.01E-38	11.87068964	9.018966667	0.00161957	ECM_REGULATORS	1.14790715	1.316191764
PLXNA1	12.20231456	11.39477878	2.30E-28	12.20231456	10.56816667	0.001336495	ECM_AFFILIATED	1.070868931	1.15462927
PLXNB1	12.06207217	11.86658829	0.006690689	12.06207217	10.93726667	0.008301909	ECM_AFFILIATED	1.016473469	1.102841554
PLXNB2	13.94196828	13.65677356	3.09E-08	13.94196828	13.2648	0.042473411	ECM_AFFILIATED	1.020883023	1.051050018
PODNL1	7.140645955	6.502546702	6.16E-07	7.140645955	4.5077	0.002742882	PROTEOGLYCANS	1.098130668	1.584099642
PRSS3	4.727119094	4.291396093	0.044699264	4.727119094	0.8885	0.042949547	ECM_REGULATORS	1.101534091	5.320336628
SDC1	14.73379029	12.08857194	1.10E-74	14.73379029	8.528033333	5.65E-14	ECM_AFFILIATED	1.218819755	1.727689107
SDC4	13.62304595	12.74728346	8.00E-18	13.62304595	12.4952	0.031706853	ECM_AFFILIATED	1.068701893	1.090262337
SEMA3F	12.14108803	10.42783493	9.07E-60	12.14108803	10.05543333	7.97E-05	ECM_AFFILIATED	1.164296147	1.207415695
SEMA4A	10.47042783	9.607952449	2.31E-19	10.47042783	8.0677	1.90E-05	ECM_AFFILIATED	1.089766825	1.297820672
SEMA4B	13.33532298	11.68045987	5.56E-124	13.33532298	10.7566	7.00E-05	ECM_AFFILIATED	1.141677907	1.239734022
SERPINB13	9.784079935	1.408272159	0	9.784079935	4.175566667	0.031561843	ECM_REGULATORS	6.947577477	2.343174164
SERPINB2	8.467252751	3.304195244	8.93E-162	8.467252751	2.5344	0.001774744	ECM_REGULATORS	2.562576399	3.340929905
SERPINB3	12.38856117	2.392725392	0	12.38856117	7.435733333	0.018968262	ECM_REGULATORS	5.177594223	1.66608465
SERPINB4	10.97515987	1.89524101	0	10.97515987	4.828933333	0.003782552	ECM_REGULATORS	5.790904593	2.272791756
SERPINB5	12.02747832	5.178847333	3.07E-146	12.02747832	5.156433333	2.66E-05	ECM_REGULATORS	2.322423803	2.332518921
SERPINB7	7.473047249	2.707530387	2.35E-177	7.473047249	2.642033333	0.00314979	ECM_REGULATORS	2.760097277	2.828521183
SERPINB8	9.739896117	8.658668862	4.14E-56	9.739896117	8.0066	0.005448461	ECM_REGULATORS	1.124872226	1.216483416
ST14	13.35476408	11.50465816	4.24E-34	13.35476408	8.803366667	3.50E-14	ECM_REGULATORS	1.160813636	1.517006457
TGM1	9.783284466	5.825268317	2.80E-187	9.783284466	5.4987	0.012739685	ECM_REGULATORS	1.679456453	1.779199532
TGM5	5.651428479	2.568398792	1.48E-109	5.651428479	1.7551	0.009272595	ECM_REGULATORS	2.200370323	3.220003692
WNT10A	7.613164078	5.674497355	8.02E-36	7.613164078	3.360133333	0.001001042	SECRETED_FACTORS	1.341645542	2.265732732
WNT3A	5.469840453	2.46023867	1.39E-99	5.469840453	1.621166667	0.004512346	SECRETED_FACTORS	2.223296674	3.374014878
WNT7B	10.31688641	6.71497389	6.05E-69	10.31688641	4.009733333	4.52E-10	SECRETED_FACTORS	1.536400078	2.572960731

<b>VWA9</b>	10.72309709	10.62042746	0.00011719	10.72309709	10.27616667	0.046842758	ECM_GLYCOPROTEINS	1.009667184	1.04349194
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**Cholangiocarcinoma (CHOL)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
ADAM28	8.717384444	8.144706616	0.042392565	8.717384444	5.929011111	0.000248605	ECM_REGULATORS	1.070312886	1.470293154
ADAMTS10	9.514424444	7.635274144	1.44E-16	9.514424444	8.412066667	0.020472007	ECM_REGULATORS	1.246114319	1.131044822
ADAMTS16	6.491073333	5.21190931	0.001028455	6.491073333	4.210088889	0.032711324	ECM_REGULATORS	1.245430983	1.541790092
AGRN	13.84950667	13.3278158	0.007281928	13.84950667	12.04275556	0.000152247	ECM_GLYCOPROTEINS	1.039143013	1.150028048
AGRN	13.84950667	13.3278158	0.007281928	13.84950667	12.04275556	0.000152247	BASEMENT_MEMBRANES	1.039143013	1.150028048
AMH	5.658886667	4.921354895	0.040457558	5.658886667	3.104122222	0.003168167	SECRETED_FACTORS	1.149863562	1.823023148
ANXA11	13.31701333	12.83159322	0.001705166	13.31701333	11.92021111	1.42E-05	ECM_AFFILIATED	1.037830073	1.117179319
ANXA13	10.99236	3.760670871	1.28E-50	10.99236	8.991088889	0.0417013	ECM_AFFILIATED	2.922978473	1.222583842
ANXA3	10.08162	9.322621984	0.048811243	10.08162	7.1658	0.00045096	ECM_AFFILIATED	1.081414651	1.406907812
ANXA4	14.41420444	11.92812769	1.44E-32	14.41420444	12.82972222	0.001451373	ECM_AFFILIATED	1.208421373	1.123500899
BGLAP	4.642831111	4.098312274	0.011510355	4.642831111	3.158611111	0.008513218	ECM_GLYCOPROTEINS	1.132864165	1.469896403
CCL20	8.991948889	5.85601887	4.79E-10	8.991948889	6.502677778	0.003775222	SECRETED_FACTORS	1.53550545	1.382807083
CLCF1	9.167851111	7.740658906	8.73E-08	9.167851111	7.187466667	0.000646807	SECRETED_FACTORS	1.184376062	1.275533027
COL4A3	7.023937778	5.757719739	0.004554614	7.023937778	5.698933333	0.042228547	COLLAGENS	1.219916581	1.232500429
COL4A3	7.023937778	5.757719739	0.004554614	7.023937778	5.698933333	0.042228547	BASEMENT_MEMBRANES	1.219916581	1.232500429
CST2	5.056413333	3.647997336	0.00092016	5.056413333	2.242733333	0.000891252	ECM_REGULATORS	1.386079229	2.254576261
CTSC	12.73839556	12.19572184	0.017464141	12.73839556	10.92235556	0.000382639	ECM_REGULATORS	1.044497055	1.166268164
CTSH	13.55254	12.11308902	1.21E-11	13.55254	12.36491111	0.008928358	ECM_REGULATORS	1.118834343	1.096048316
CXCL1	9.382997778	6.974505339	1.02E-06	9.382997778	7.437911111	0.022260708	SECRETED_FACTORS	1.345328066	1.261509803
CXCL8	10.60451111	8.042846702	1.33E-09	10.60451111	8.618811111	0.027582229	SECRETED_FACTORS	1.318502205	1.230391405
EDA	8.162688889	7.291974603	0.001283012	8.162688889	7.117877778	0.024419953	SECRETED_FACTORS	1.119407202	1.146786886
FGF12	7.493855556	6.303783664	0.000854937	7.493855556	5.173666667	0.004222516	SECRETED_FACTORS	1.188786918	1.448461225
FRAS1	10.15242	8.492037441	4.47E-06	10.15242	7.059688889	0.000828288	ECM_GLYCOPROTEINS	1.195522284	1.438083202
IBSP	4.182671111	3.321830985	0.029283794	4.182671111	0.321166667	0.000878345	ECM_GLYCOPROTEINS	1.259146275	13.0233662
ITIH5	12.30814	9.233053667	6.37E-21	12.30814	8.220522222	0.000167659	ECM_REGULATORS	1.333051929	1.497245512
LAMA5	13.08274222	12.38471859	0.000890017	13.08274222	10.99546667	1.74E-05	ECM_GLYCOPROTEINS	1.056361687	1.189830556
LAMA5	13.08274222	12.38471859	0.000890017	13.08274222	10.99546667	1.74E-05	BASEMENT_MEMBRANES	1.056361687	1.189830556
LAMB1	12.78626	12.27149268	0.037389473	12.78626	11.20578889	0.000303658	BASEMENT_MEMBRANES	1.041948224	1.141040593
LAMB1	12.78626	12.27149268	0.037389473	12.78626	11.20578889	0.000303658	ECM_GLYCOPROTEINS	1.041948224	1.141040593
LAMB3	12.18653556	10.88015143	0.002449804	12.18653556	9.040177778	4.28E-05	ECM_GLYCOPROTEINS	1.120070399	1.348041582
LAMB3	12.18653556	10.88015143	0.002449804	12.18653556	9.040177778	4.28E-05	BASEMENT_MEMBRANES	1.120070399	1.348041582
LAMC1	13.22067778	12.81834145	0.043114543	13.22067778	11.38597778	0.000133286	BASEMENT_MEMBRANES	1.031387549	1.161136798
LAMC1	13.22067778	12.81834145	0.043114543	13.22067778	11.38597778	0.000133286	ECM_GLYCOPROTEINS	1.031387549	1.161136798
LAMC2	11.83048222	10.30634999	0.007664373	11.83048222	7.253066667	1.91E-05	ECM_GLYCOPROTEINS	1.147882833	1.631100714
LAMC2	11.83048222	10.30634999	0.007664373	11.83048222	7.253066667	1.91E-05	BASEMENT_MEMBRANES	1.147882833	1.631100714
LGALS9	11.49061556	10.91498941	0.008790636	11.49061556	9.483155556	0.00024324	ECM_AFFILIATED	1.052737215	1.211686921
LGALS9B	3.888948889	2.802568376	0.006482108	3.888948889	1.934011111	0.017663085	ECM_AFFILIATED	1.387637469	2.010820345
LOXL4	10.50366667	7.762506616	1.36E-15	10.50366667	7.781388889	0.000630521	ECM_REGULATORS	1.353128208	1.349844715
LTBP3	12.67204444	12.18913514	0.00840958	12.67204444	11.97125556	0.01599177	ECM_GLYCOPROTEINS	1.039618013	1.058539297
MMP24	8.549486667	6.976836893	1.66E-05	8.549486667	5.785855556	0.000824987	ECM_REGULATORS	1.225410139	1.477652974
MMP7	10.99070222	8.338187526	1.31E-05	10.99070222	7.114788889	0.000967345	ECM_REGULATORS	1.31811646	1.544768565

<b>MUC13</b>	9.166308889	4.625577288	9.80E-12	9.166308889	4.631688889	0.000423468	ECM_AFFILIATED	1.981657276	1.979042442
<b>MUC20</b>	10.67625111	9.049174913	3.99E-05	10.67625111	8.639433333	0.004508428	ECM_AFFILIATED	1.179803818	1.235758261
<b>OTOG</b>	3.278717778	1.294315707	1.21E-12	3.278717778	0.231422222	0.00099601	ECM_GLYCOPROTEINS	2.533166955	14.16768773
<b>PLOD3</b>	12.26494444	11.66115053	0.000132368	12.26494444	11.3402	0.000224254	ECM_REGULATORS	1.051778245	1.081545691
<b>PLXNB2</b>	14.42507333	13.68274198	1.50E-08	14.42507333	13.75444444	0.010803833	ECM_AFFILIATED	1.054253113	1.04875725
<b>PLXNB3</b>	9.231353333	8.448288315	0.041319563	9.231353333	6.432088889	0.000804851	ECM_AFFILIATED	1.092689192	1.43520301
<b>REG1A</b>	5.260693333	2.828283195	0.000155934	5.260693333	1.0297	0.0054383	ECM_AFFILIATED	1.860030616	5.108957301
<b>SEMA3E</b>	7.496664444	5.290611356	5.42E-06	7.496664444	5.378366667	0.045244281	ECM_AFFILIATED	1.416975079	1.393855218
<b>SEMA6A</b>	11.29825111	9.633962968	2.14E-08	11.29825111	9.276755556	0.001035959	ECM_AFFILIATED	1.172752184	1.217909758
<b>SFTA2</b>	4.31276	3.218235206	0.043566529	4.31276	2.391	0.04905761	ECM_AFFILIATED	1.340100932	1.803747386
<b>SPP1</b>	14.55278667	12.02522585	5.44E-08	14.55278667	10.32803333	0.001032058	ECM_GLYCOPROTEINS	1.21018822	1.409056903
<b>TGM3</b>	5.379013333	3.865587137	0.001262149	5.379013333	2.945666667	0.015938644	ECM_REGULATORS	1.391512633	1.826076723
<b>THBS3</b>	10.20764667	9.886424149	0.035712411	10.20764667	8.956644444	0.00043155	ECM_GLYCOPROTEINS	1.032491274	1.139673092
<b>TIMP1</b>	14.01019111	13.07373821	0.000304222	14.01019111	12.67466667	0.003658915	ECM_REGULATORS	1.071628549	1.105369591
<b>TINAG</b>	3.055817778	1.888654027	0.018339637	3.055817778	0.153922222	0.006443728	ECM_GLYCOPROTEINS	1.617987061	19.85299935
<b>TINAGL1</b>	11.26729333	10.6401024	0.041314213	11.26729333	9.955811111	0.002947256	ECM_GLYCOPROTEINS	1.058945948	1.131730324
<b>VWA7</b>	8.161304444	6.571677298	5.96E-09	8.161304444	6.430344444	0.000374835	ECM_GLYCOPROTEINS	1.241890628	1.269186202
<b>VWDE</b>	5.589968889	4.370217663	0.003702368	5.589968889	3.770844444	0.030437918	ECM_GLYCOPROTEINS	1.279105372	1.482418321
<b>ZPLD1</b>	5.786535556	2.26459539	1.68E-29	5.786535556	3.9729	0.041046614	ECM_GLYCOPROTEINS	2.555218288	1.456501688

**Colon Adenocarcinoma (COAD)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
ACAN	7.741981269	6.323319026	3.44E-26	7.741981269	4.509321951	7.89E-25	PROTEOGLYCANS	1.224354052	1.716883681
ADAM19	10.15683112	8.916404124	8.79E-43	10.15683112	9.618573171	0.002278981	ECM_REGULATORS	1.139117404	1.05596027
ADAM9	12.30679577	11.71561116	8.25E-17	12.30679577	11.95276829	0.004866329	ECM_REGULATORS	1.050461269	1.029618869
ADAMTS12	8.827316616	7.868232738	2.42E-13	8.827316616	5.957226829	2.96E-20	ECM_REGULATORS	1.121893176	1.481782861
ADAMTS14	7.859058912	6.534747141	8.30E-30	7.859058912	6.95734878	1.14E-07	ECM_REGULATORS	1.202656927	1.129605423
ADAMTS2	9.875450151	9.391779411	2.74E-05	9.875450151	8.178721951	4.13E-10	ECM_REGULATORS	1.051499372	1.207456398
ADAMTS6	5.915548943	5.681847736	0.019120835	5.915548943	4.083021951	6.27E-14	ECM_REGULATORS	1.041131198	1.448816346
ADAMTSL5	7.413130514	6.033847598	6.85E-36	7.413130514	6.445768293	1.02E-09	ECM_REGULATORS	1.228590944	1.150077101
AGT	9.023667372	8.416494983	0.002879375	9.023667372	7.708885366	9.64E-08	ECM_REGULATORS	1.072140765	1.1705541
AMELX	2.045275529	0.194335534	0	2.045275529	0.197573171	1.75E-11	ECM_GLYCOPROTEINS	10.52445475	10.35199021
ANXA3	11.30661813	8.926245599	7.35E-57	11.30661813	10.07511463	3.17E-15	ECM_AFFILIATED	1.266671189	1.122232207
AREG	10.77660091	6.670819537	1.18E-117	10.77660091	9.27405122	1.58E-07	SECRETED_FACTORS	1.615483802	1.16201654
BMP4	10.69677372	7.75824932	2.48E-165	10.69677372	9.416534146	5.06E-10	SECRETED_FACTORS	1.378761274	1.135956558
BMP7	8.863184894	7.932301201	1.25E-05	8.863184894	7.089192683	6.20E-06	SECRETED_FACTORS	1.117353548	1.250238961
C1QTNF1	10.20027432	9.766051711	6.53E-06	10.20027432	9.558597561	4.01E-05	ECM_AFFILIATED	1.044462452	1.067130848
C1QTNF8	0.563191239	0.303833429	2.30E-08	0.563191239	0.147185366	0.007540941	ECM_AFFILIATED	1.853618414	3.826407846
CCL20	10.02366163	5.551004688	9.28E-134	10.02366163	9.057821951	0.000198205	SECRETED_FACTORS	1.805738275	1.106630455
CCL24	8.513945921	2.305375744	0	8.513945921	7.465878049	0.000451279	SECRETED_FACTORS	3.693083847	1.14038106
CCL26	3.72293716	3.004064052	3.40E-11	3.72293716	2.553412195	3.33E-06	SECRETED_FACTORS	1.239300193	1.458024352
CLEC6A	1.592246828	1.388828189	0.018370693	1.592246828	0.915414634	0.003456681	ECM_AFFILIATED	1.146467821	1.739372267
COL10A1	7.564254985	6.694443984	2.55E-05	7.564254985	1.719041463	5.12E-23	COLLAGENS	1.129930283	4.400274889
COL11A1	8.839041994	7.317275999	1.66E-12	8.839041994	3.751768293	4.07E-26	COLLAGENS	1.207968921	2.355966921
COL12A1	12.4029423	11.1207018	6.56E-19	12.4029423	10.70771463	1.20E-10	COLLAGENS	1.115302121	1.158318345
COL1A1	15.54729154	14.56758602	1.43E-08	15.54729154	13.56163659	7.39E-12	COLLAGENS	1.067252427	1.14641706
COL1A2	15.13475861	14.3745589	4.38E-07	15.13475861	14.01686829	9.94E-06	COLLAGENS	1.052885081	1.079753216
COL3A1	15.26913142	14.11161066	3.51E-12	15.26913142	14.47818537	0.001215621	COLLAGENS	1.082026126	1.054630193
COL4A1	13.36630846	13.10463265	0.01485611	13.36630846	12.08233659	5.96E-11	COLLAGENS	1.019968191	1.106268507
COL4A1	13.36630846	13.10463265	0.01485611	13.36630846	12.08233659	5.96E-11	BASEMENT_MEMBRANES	1.019968191	1.106268507
COL5A1	12.62603625	11.66527755	2.28E-12	12.62603625	11.35673415	3.47E-08	COLLAGENS	1.082360552	1.111766472
COL5A2	12.07467795	11.39125581	4.58E-08	12.07467795	10.70444146	1.09E-08	COLLAGENS	1.059995328	1.12800635
COL6A3	13.54584381	12.4598605	1.79E-12	13.54584381	12.94646829	0.016257269	BASEMENT_MEMBRANES	1.087158544	1.046296449
COL6A3	13.54584381	12.4598605	1.79E-12	13.54584381	12.94646829	0.016257269	COLLAGENS	1.087158544	1.046296449
COL9A3	8.182997281	6.830510682	1.34E-21	8.182997281	6.703219512	7.63E-06	COLLAGENS	1.198006659	1.220756275
CSF2	2.841800604	1.948265976	2.95E-13	2.841800604	1.243990244	2.35E-08	SECRETED_FACTORS	1.458630721	2.284423546
CSF3	4.576332628	2.809586086	9.58E-29	4.576332628	3.166931707	0.000190332	SECRETED_FACTORS	1.628828051	1.445036727
CST1	7.820570393	4.675118846	5.03E-46	7.820570393	1.791290244	5.44E-26	ECM_REGULATORS	1.672806757	4.365886779
CST4	2.665591541	2.050409364	1.31E-05	2.665591541	0.15047561	5.80E-14	ECM_REGULATORS	1.300028954	17.71444253
CSTL1	1.168087915	0.510782866	5.51E-36	1.168087915	0.203880488	5.99E-07	ECM_REGULATORS	2.286858064	5.729277617
CTSV	8.429963142	7.231072045	4.07E-16	8.429963142	7.281407317	6.29E-07	ECM_REGULATORS	1.165797145	1.157738164
CXCL1	10.25534773	6.556732015	9.25E-96	10.25534773	7.884412195	8.99E-15	SECRETED_FACTORS	1.564094386	1.300711769
CXCL11	7.610099698	6.342739488	2.83E-17	7.610099698	5.055195122	3.00E-11	SECRETED_FACTORS	1.199812749	1.505401773

CXCL2	8.599125076	6.828612117	7.13E-36	8.599125076	6.915368293	1.59E-09	SECRETED_FACTORS	1.259278595	1.243480421
CXCL3	9.562309063	4.889910098	2.58E-275	9.562309063	7.143853659	6.46E-16	SECRETED_FACTORS	1.955518378	1.338536527
CXCL5	6.851458006	4.732781069	2.25E-32	6.851458006	3.568592683	4.19E-10	SECRETED_FACTORS	1.447660034	1.919932762
CXCL6	5.31704713	4.336360895	6.48E-08	5.31704713	3.923902439	2.09E-05	SECRETED_FACTORS	1.226154201	1.355040604
CXCL8	9.950111178	7.779989041	1.23E-44	9.950111178	6.867073171	1.50E-14	SECRETED_FACTORS	1.2789364	1.448959539
EPYC	3.160630514	2.536326265	6.88E-05	3.160630514	0.320021951	1.66E-10	PROTEOGLYCANS	1.246145087	9.876292865
EREG	9.240881873	3.905234524	2.70E-182	9.240881873	7.427312195	4.09E-05	SECRETED_FACTORS	2.366280902	1.244175771
F12	8.796860121	7.100190636	5.86E-34	8.796860121	7.947385366	5.23E-06	ECM_REGULATORS	1.238961117	1.106887324
FGF18	5.608446224	4.782199904	1.25E-10	5.608446224	4.12797561	3.13E-11	SECRETED_FACTORS	1.172775362	1.358643256
FGF19	3.81191571	1.643065402	5.40E-51	3.81191571	0.581517073	1.37E-11	SECRETED_FACTORS	2.320002421	6.555122602
FGF20	2.132281571	1.844686926	0.005489186	2.132281571	0.345326829	2.80E-06	SECRETED_FACTORS	1.155904311	6.174676829
FGF23	0.853424773	0.469638924	3.47E-10	0.853424773	0.18964878	0.006894498	SECRETED_FACTORS	1.817193442	4.500027742
FGF3	0.758840181	0.3792103	1.15E-07	0.758840181	0.061429268	0.00362738	SECRETED_FACTORS	2.001106462	12.35307212
GPC4	11.06736163	9.843267751	1.43E-22	11.06736163	10.66705854	0.004812882	ECM_AFFILIATED	1.124358487	1.037527036
HTRA3	10.08740272	9.118383418	1.46E-12	10.08740272	9.320917073	0.001038068	ECM_REGULATORS	1.106270954	1.082232858
LAMB1	12.69793565	12.17469109	3.04E-08	12.69793565	12.31526098	0.001056658	BASEMENT_MEMBRANES	1.042978056	1.031073209
LAMB1	12.69793565	12.17469109	3.04E-08	12.69793565	12.31526098	0.001056658	ECM_GLYCOPROTEINS	1.042978056	1.031073209
LAMC2	12.4503994	9.831347513	1.14E-32	12.4503994	11.65961463	3.70E-07	ECM_GLYCOPROTEINS	1.266398058	1.067822547
LAMC2	12.4503994	9.831347513	1.14E-32	12.4503994	11.65961463	3.70E-07	BASEMENT_MEMBRANES	1.266398058	1.067822547
LOXL2	10.62957855	10.07428463	1.70E-08	10.62957855	9.347885366	1.00E-11	ECM_REGULATORS	1.055119936	1.137110494
MMP1	9.955311178	6.627750723	6.42E-51	9.955311178	6.787319512	1.64E-13	ECM_REGULATORS	1.502064817	1.466751515
MMP10	5.406912387	4.533528019	2.08E-05	5.406912387	3.13967561	2.39E-09	ECM_REGULATORS	1.192650043	1.722124531
MMP11	11.20469879	9.858270961	5.55E-17	11.20469879	8.025609756	6.72E-22	ECM_REGULATORS	1.136578497	1.396118069
MMP12	9.839807855	5.270708918	2.90E-104	9.839807855	8.746031707	0.000668816	ECM_REGULATORS	1.866885083	1.125059705
MMP20	0.908372508	0.592134173	1.57E-06	0.908372508	0.294458537	0.002182214	ECM_REGULATORS	1.534065333	3.084891062
MMP3	8.497773414	4.142292602	8.26E-97	8.497773414	4.818139024	8.27E-15	ECM_REGULATORS	2.051466236	1.763704486
MMP7	8.937566767	8.135262776	0.000503342	8.937566767	2.8683	4.91E-27	ECM_REGULATORS	1.098620538	3.115980465
MMP8	2.568664048	1.926423533	5.31E-07	2.568664048	0.532968293	7.74E-09	ECM_REGULATORS	1.333384899	4.819543833
MMP9	10.01092961	9.293933642	8.68E-06	10.01092961	9.1798	0.004315545	ECM_REGULATORS	1.077146663	1.090538967
MUC5AC	6.66353716	2.53302771	1.23E-100	6.66353716	4.263578049	5.03E-05	ECM_AFFILIATED	2.63066098	1.562897896
MXRA5	11.20178882	10.90338756	0.037003251	11.20178882	10.55420732	0.00922954	ECM_GLYCOPROTEINS	1.027367757	1.061357664
NID2	9.39686284	9.115427105	0.009912174	9.39686284	8.794329268	0.000836664	BASEMENT_MEMBRANES	1.030874662	1.068513874
NID2	9.39686284	9.115427105	0.009912174	9.39686284	8.794329268	0.000836664	ECM_GLYCOPROTEINS	1.030874662	1.068513874
OVGP1	7.185370695	6.287084938	1.20E-21	7.185370695	5.874529268	4.55E-15	ECM_AFFILIATED	1.142877942	1.223139824
PLOD3	12.43899607	11.61495715	1.62E-45	12.43899607	11.62421707	6.86E-13	ECM_REGULATORS	1.070946359	1.070093237
PODNL1	7.261954985	6.538444441	5.79E-09	7.261954985	6.171687805	5.74E-09	PROTEOGLYCANS	1.110654843	1.176656243
POSTN	11.76367221	10.68835551	6.50E-08	11.76367221	11.15212195	0.038804147	ECM_GLYCOPROTEINS	1.100606375	1.05483712
PRSS1	2.28724139	1.947603848	0.046862798	2.28724139	0.540290244	2.58E-05	ECM_REGULATORS	1.174387385	4.23356822
PRSS2	4.922577644	2.974642102	5.17E-23	4.922577644	2.596470732	9.95E-05	ECM_REGULATORS	1.654847028	1.895872572
REG1A	8.510999396	2.150232005	6.82E-211	8.510999396	5.872134146	0.000587104	ECM_AFFILIATED	3.958177247	1.449387767
REG1B	5.172576133	0.604387787	3.35E-322	5.172576133	2.999946341	0.001892955	ECM_AFFILIATED	8.558373025	1.724222884
REG3A	6.572507553	0.691989679	0	6.572507553	4.018180488	0.0003001	ECM_AFFILIATED	9.497984945	1.635692466
SDC4	13.11104139	12.80251828	0.001697108	13.11104139	12.69398537	9.57E-05	ECM_AFFILIATED	1.024098627	1.032854617
SERPINA4	3.353470091	2.266563977	2.52E-08	3.353470091	0.267243902	4.51E-15	ECM_REGULATORS	1.479539128	12.54835025
SERPINA7	2.670365861	1.114846407	2.51E-23	2.670365861	1.594773171	0.006112327	ECM_REGULATORS	2.395276913	1.674448699
SERPINB5	9.648550151	5.535738191	1.08E-51	9.648550151	6.890763415	4.47E-12	ECM_REGULATORS	1.742956372	1.400214979



<b>SERPINE2</b>	11.14265921	10.74347755	0.002672357	11.14265921	10.10229756	2.84E-07	ECM_REGULATORS	1.037155722	1.102982678
<b>SFTA2</b>	4.350291239	2.87030541	6.62E-14	4.350291239	0.296768293	5.28E-21	ECM_AFFILIATED	1.515619635	14.65888151
<b>SPON2</b>	10.79167492	10.24663644	2.91E-05	10.79167492	9.972619512	5.78E-07	ECM_GLYCOPROTEINS	1.053191942	1.082130418
<b>SRPX2</b>	8.940777644	7.587607153	1.60E-25	8.940777644	6.808426829	3.25E-13	ECM_GLYCOPROTEINS	1.178339556	1.313192881
<b>SULF1</b>	12.01272296	10.89942983	6.75E-16	12.01272296	10.49467317	4.47E-07	ECM_REGULATORS	1.102142328	1.144649554
<b>TGFBI</b>	14.18545408	12.17238885	1.43E-71	14.18545408	11.77384634	4.14E-22	ECM_GLYCOPROTEINS	1.165379635	1.204827519
<b>TSPEAR</b>	4.051556193	2.483923895	5.12E-41	4.051556193	2.607041463	4.28E-05	ECM_GLYCOPROTEINS	1.631111244	1.554081993
<b>WISP1</b>	7.612747432	7.255730357	0.005976733	7.612747432	5.250046341	6.38E-16	ECM_GLYCOPROTEINS	1.049204843	1.450034331
<b>WNT11</b>	7.739306647	5.899689413	2.45E-43	7.739306647	6.9725	0.030773984	SECRETED_FACTORS	1.311815946	1.109975855
<b>WNT2</b>	7.172414804	5.44718666	1.35E-24	7.172414804	2.466446341	2.63E-32	SECRETED_FACTORS	1.316719116	2.907995476
<b>WNT8B</b>	2.009831722	1.719004804	0.000761904	2.009831722	0.780387805	1.30E-07	SECRETED_FACTORS	1.169183307	2.57542687
<b>VWA2</b>	8.487925076	5.360233535	5.86E-76	8.487925076	5.181985366	1.33E-24	ECM_GLYCOPROTEINS	1.583499118	1.637967782
<b>VWA9</b>	10.72670453	10.61265181	6.57E-06	10.72670453	10.5460878	0.001727008	ECM_GLYCOPROTEINS	1.010746864	1.01712642
<b>ZP3</b>	8.696715408	7.783635916	1.42E-28	8.696715408	7.458843902	6.69E-10	ECM_GLYCOPROTEINS	1.11730758	1.165960237

**Esophageal Carcinoma (ESCA)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
ACAN	7.643793846	6.323319026	2.99E-14	7.643793846	5.261592308	1.84E-05	PROTEOGLYCANS	1.208826222	1.452752969
ADAM10	12.65238103	12.04475783	5.54E-30	12.65238103	12.09913846	0.004309001	ECM_REGULATORS	1.050447107	1.045725782
ADAM12	9.459065128	8.421758121	3.79E-08	9.459065128	6.0994	1.84E-08	ECM_REGULATORS	1.123169888	1.550818954
ADAM17	11.16374154	10.20838575	6.92E-30	11.16374154	10.15537692	0.000134765	ECM_REGULATORS	1.093585393	1.099293667
ADAM8	9.872030769	8.821557749	4.86E-16	9.872030769	8.428230769	0.000716041	ECM_REGULATORS	1.119080218	1.171305229
ADAMDEC1	7.070861026	5.850329943	3.14E-10	7.070861026	4.6466	3.98E-05	ECM_REGULATORS	1.208626025	1.521727936
ADAMTS12	9.607984615	7.868232738	1.45E-24	9.607984615	6.631392308	2.98E-08	ECM_REGULATORS	1.221110882	1.448863854
ADAMTS14	8.415809744	6.534747141	4.92E-35	8.415809744	6.572523077	1.59E-05	ECM_REGULATORS	1.287855454	1.280453434
ADAMTS2	10.79261026	9.391779411	8.54E-21	10.79261026	9.175669231	0.000593237	ECM_REGULATORS	1.149154999	1.176220501
ADAMTS20	3.727416923	1.790075893	2.38E-30	3.727416923	1.073938462	0.002775868	ECM_REGULATORS	2.082267538	3.470791909
ADAMTS6	6.928011282	5.681847736	6.29E-22	6.928011282	5.974030769	0.020367439	ECM_REGULATORS	1.219323643	1.159687914
ADAMTS7	9.147463077	8.00658547	3.75E-24	9.147463077	8.211084615	0.003296582	ECM_REGULATORS	1.142492403	1.11403834
ADAMTSL5	8.596593333	6.033847598	1.73E-70	8.596593333	7.807423077	0.04897076	ECM_REGULATORS	1.424728284	1.101079479
AGRN	14.51676205	13.28611182	1.98E-38	14.51676205	13.42239231	0.000229687	BASEMENT_MEMBRANES	1.092626816	1.081533136
AGRN	14.51676205	13.28611182	1.98E-38	14.51676205	13.42239231	0.000229687	ECM_GLYCOPROTEINS	1.092626816	1.081533136
AMH	6.30182	4.78537348	4.52E-18	6.30182	5.143623077	0.048902531	SECRETED_FACTORS	1.316891989	1.225171422
ANGPT2	9.245981538	8.572867687	7.52E-09	9.245981538	7.494123077	1.76E-07	SECRETED_FACTORS	1.078516767	1.233764304
ANXA2	15.50781077	14.42235591	4.19E-22	15.50781077	14.38373846	8.68E-05	ECM_AFFILIATED	1.075261966	1.078148828
ANXA8	9.253132308	5.867657451	1.82E-25	9.253132308	5.756746154	0.002675698	ECM_AFFILIATED	1.576972137	1.607354582
ANXA8L1	9.189085128	5.816157217	2.97E-32	9.189085128	6.7563	0.01558048	ECM_AFFILIATED	1.579923786	1.36007654
ARTN	6.935233333	5.510244494	8.63E-19	6.935233333	5.3514	0.020226771	SECRETED_FACTORS	1.258607189	1.295966165
ASPN	9.32468	8.261593676	4.83E-09	9.32468	8.150392308	0.014657761	PROTEOGLYCANS	1.128678118	1.144077444
BGN	13.61419897	13.22871855	0.008277135	13.61419897	11.42556154	1.01E-06	PROTEOGLYCANS	1.029139665	1.191556225
BMP1	11.37506872	10.62402635	3.19E-20	11.37506872	10.10366154	1.11E-05	ECM_REGULATORS	1.070692819	1.12583628
BMP8A	6.619213846	4.035349936	2.96E-87	6.619213846	5.049584615	0.000271714	SECRETED_FACTORS	1.640307272	1.310843238
BMP8B	8.798971795	7.691986097	9.82E-19	8.798971795	7.993153846	0.024670619	SECRETED_FACTORS	1.143914157	1.100813517
CCL18	8.447629744	6.923515264	4.76E-10	8.447629744	6.628276923	0.005119934	SECRETED_FACTORS	1.220135931	1.274483526
CCL20	9.324222051	5.551004688	6.37E-58	9.324222051	5.799869231	5.26E-06	SECRETED_FACTORS	1.679735935	1.607660739
CCL22	7.501091282	5.887581409	1.14E-20	7.501091282	5.984853846	0.002273717	SECRETED_FACTORS	1.274053089	1.253345775
CCL24	4.503682051	2.305375744	3.21E-48	4.503682051	3.019338462	0.007277726	SECRETED_FACTORS	1.953556622	1.491612189
CCL26	4.098959487	3.004064052	8.79E-15	4.098959487	1.924653846	7.50E-05	SECRETED_FACTORS	1.364471402	2.129712569
CCL7	2.627906667	2.256527657	0.013414109	2.627906667	0.983615385	0.003675837	SECRETED_FACTORS	1.164579862	2.671681134
CD109	11.27835179	9.848226658	2.26E-23	11.27835179	9.809415385	0.012645181	ECM_REGULATORS	1.145216513	1.1497476
CLEC2B	8.854177436	8.265322842	3.56E-07	8.854177436	7.797076923	0.034212678	ECM_AFFILIATED	1.071243992	1.135576515
CLEC6A	1.674436923	1.388828189	0.010584461	1.674436923	0.691453846	0.019673636	ECM_AFFILIATED	1.205647276	2.421617773
CLEC7A	8.254169231	7.78728395	0.000295486	8.254169231	6.634223077	0.000783286	ECM_AFFILIATED	1.059954829	1.244180236
CNTF	5.009567179	4.014342028	2.58E-24	5.009567179	4.416807692	0.028729978	SECRETED_FACTORS	1.247917378	1.13420541
COCH	7.885620513	6.377181409	2.23E-16	7.885620513	6.044215385	0.00418985	ECM_GLYCOPROTEINS	1.23653696	1.304655776
COL10A1	8.241527179	6.694443984	6.84E-09	8.241527179	3.686184615	2.75E-07	COLLAGENS	1.23109958	2.235787959
COL12A1	13.29082564	11.1207018	6.52E-31	13.29082564	11.90566154	0.000969624	COLLAGENS	1.195142706	1.116344993
COL13A1	7.078155897	6.342576509	1.41E-07	7.078155897	6.377892308	0.022021592	COLLAGENS	1.115974855	1.109795455
COL18A1	13.22397231	12.91779311	0.004805203	13.22397231	12.44866923	0.004415298	BASEMENT_MEMBRANES	1.023702129	1.062279997

COL18A1	13.22397231	12.91779311	0.004805203	13.22397231	12.44866923	0.004415298	COLLAGENS	1.023702129	1.062279997
COL1A1	16.57822103	14.56758602	3.95E-19	16.57822103	14.09875385	4.34E-06	COLLAGENS	1.138021152	1.175864279
COL1A2	15.62648359	14.3745589	1.60E-10	15.62648359	14.12480769	0.001849271	COLLAGENS	1.087093086	1.106314785
COL24A1	6.323890769	5.296083259	3.58E-12	6.323890769	4.541546154	0.000602171	COLLAGENS	1.194069364	1.392453265
COL27A1	11.07643077	9.554815529	1.41E-31	11.07643077	9.812953846	0.000444242	COLLAGENS	1.159251137	1.128756024
COL3A1	15.67227692	14.11161066	5.75E-13	15.67227692	14.07846923	0.001244422	COLLAGENS	1.110594481	1.113208877
COL4A1	14.2105159	13.10463265	2.59E-15	14.2105159	12.99077692	0.000446812	COLLAGENS	1.084388725	1.093892689
COL4A1	14.2105159	13.10463265	2.59E-15	14.2105159	12.99077692	0.000446812	BASEMENT_MEMBRANES	1.084388725	1.093892689
COL4A2	14.30296513	13.38834677	1.43E-11	14.30296513	13.54701538	0.024448104	COLLAGENS	1.068314511	1.05580194
COL4A2	14.30296513	13.38834677	1.43E-11	14.30296513	13.54701538	0.024448104	BASEMENT_MEMBRANES	1.068314511	1.05580194
COL5A1	13.31153949	11.66527755	2.70E-20	13.31153949	11.85597692	0.002323144	COLLAGENS	1.141124969	1.122770361
COL5A2	12.83734	11.39125581	5.96E-19	12.83734	11.10731538	9.28E-05	COLLAGENS	1.126946863	1.155755424
COL5A3	10.44755179	9.425908801	8.51E-14	10.44755179	8.729923077	8.62E-05	COLLAGENS	1.108386683	1.196751873
COL6A3	14.29269231	12.4598605	6.10E-20	14.29269231	13.12082308	0.010579034	COLLAGENS	1.147098903	1.089313698
COL6A3	14.29269231	12.4598605	6.10E-20	14.29269231	13.12082308	0.010579034	BASEMENT_MEMBRANES	1.147098903	1.089313698
COL7A1	12.11862769	9.209955931	6.14E-49	12.11862769	8.9184	3.21E-07	COLLAGENS	1.315818206	1.358834286
COL8A1	10.2832759	9.734282292	0.005138472	10.2832759	9.165130769	0.040399215	COLLAGENS	1.056397954	1.12199991
CRLF3	10.00320718	8.988405963	8.58E-57	10.00320718	9.129569231	3.26E-06	SECRETED_FACTORS	1.112901133	1.095693228
CSF2	3.875177949	1.948265976	1.74E-33	3.875177949	1.0002	5.76E-06	SECRETED_FACTORS	1.989039483	3.874403068
CST1	9.169130769	4.675118846	1.83E-55	9.169130769	3.910076923	2.96E-08	ECM_REGULATORS	1.961261536	2.345000098
CST2	4.52867641	3.474976626	2.73E-07	4.52867641	2.618392308	0.001778224	ECM_REGULATORS	1.303224999	1.729563747
CST4	2.929877436	2.050409364	1.63E-06	2.929877436	0.6525	0.000609483	ECM_REGULATORS	1.428923164	4.490233618
CST6	5.763257436	5.121371418	0.008089193	5.763257436	3.543061538	0.005731374	ECM_REGULATORS	1.125334791	1.626632045
CSTL1	1.590729231	0.510782866	4.92E-57	1.590729231	0.480353846	0.002325061	ECM_REGULATORS	3.114296383	3.311578003
CTHRC1	10.02414308	9.01501605	7.30E-08	10.02414308	6.8966	2.83E-09	ECM_GLYCOPROTEINS	1.111938461	1.453490572
CTSA	13.13848359	12.74033457	2.40E-09	13.13848359	12.61066154	0.015929984	ECM_REGULATORS	1.031251065	1.041855223
CTSB	15.56231949	15.24836909	0.000752586	15.56231949	14.597	0.001986708	ECM_REGULATORS	1.020589113	1.066131362
CTSC	12.99329077	12.11148266	8.86E-15	12.99329077	11.64567692	5.81E-05	ECM_REGULATORS	1.07280761	1.115717949
CTSK	10.85443128	10.28017202	0.000168625	10.85443128	10.0544	0.048746984	ECM_REGULATORS	1.055860861	1.079570266
CTSV	9.786259487	7.231072045	3.06E-40	9.786259487	7.323623077	2.83E-06	ECM_REGULATORS	1.353362188	1.336259306
CXCL1	10.37594872	6.556732015	2.38E-61	10.37594872	6.772238462	1.49E-07	SECRETED_FACTORS	1.582487845	1.532129853
CXCL10	8.794414872	8.345707122	0.023492332	8.794414872	5.888746154	3.01E-05	SECRETED_FACTORS	1.053765097	1.493427402
CXCL11	7.359250256	6.342739488	1.66E-07	7.359250256	4.918738462	0.000454182	SECRETED_FACTORS	1.16026368	1.496166205
CXCL13	7.768841026	6.191608355	1.56E-10	7.768841026	5.860576923	0.012527552	SECRETED_FACTORS	1.254737151	1.325610282
CXCL3	8.128645641	4.889910098	9.14E-83	8.128645641	6.661115385	0.037461614	SECRETED_FACTORS	1.662330284	1.220312991
CXCL5	7.430538462	4.732781069	1.99E-31	7.430538462	4.559953846	0.001561149	SECRETED_FACTORS	1.570015252	1.629520542
CXCL6	7.748362564	4.336360895	6.49E-47	7.748362564	4.690661538	1.02E-05	SECRETED_FACTORS	1.786835264	1.651869891
CXCL8	10.52959385	7.779989041	8.67E-43	10.52959385	6.636138462	7.46E-09	SECRETED_FACTORS	1.353420139	1.586704965
CXCL9	9.897547692	8.857239179	1.61E-06	9.897547692	7.860130769	0.003246439	SECRETED_FACTORS	1.11745291	1.259209036
DMP1	3.902303077	1.378079634	9.55E-116	3.902303077	1.283884615	9.10E-05	ECM_GLYCOPROTEINS	2.831696355	3.039449987
DSPP	3.108010256	0.492041358	0	3.108010256	0.758930769	0.000393852	ECM_GLYCOPROTEINS	6.316563035	4.095248714
EGFL6	8.462397436	5.7928	1.80E-32	8.462397436	6.717638462	1.59E-05	SECRETED_FACTORS	1.460847507	1.259728026
ELFN1	7.575115385	6.692110066	1.48E-10	7.575115385	6.558007692	0.007356338	ECM_AFFILIATED	1.13194722	1.155094007
EREG	8.442176923	3.905234524	2.47E-81	8.442176923	6.499692308	0.021713566	SECRETED_FACTORS	2.161759267	1.298857934
F12	8.602102564	7.100190636	1.31E-16	8.602102564	5.777684615	7.06E-10	ECM_REGULATORS	1.211531212	1.48884945
FGF11	8.306902051	7.804446418	0.001729826	8.306902051	6.633007692	0.004541305	SECRETED_FACTORS	1.064380688	1.252358272

FGF19	4.355058462	1.643065402	3.14E-47	4.355058462	1.608546154	0.009144709	SECRETED_FACTORS	2.650569148	2.70745011
FNDC1	9.045342564	8.021472757	5.97E-06	9.045342564	6.787546154	0.000427981	ECM_GLYCOPROTEINS	1.127641125	1.332638093
GPC1	12.90311949	11.63795591	3.29E-29	12.90311949	11.77865385	0.031875166	ECM_AFFILIATED	1.108710119	1.095466397
HAPLN3	8.90456359	8.519183557	0.003439171	8.90456359	7.391823077	9.90E-06	PROTEOGLYCANS	1.045236733	1.20465053
HPSE	9.290810769	7.671407813	1.75E-47	9.290810769	7.892838462	2.00E-05	ECM_REGULATORS	1.211095929	1.177119083
HTRA3	10.63171897	9.118383418	1.97E-17	10.63171897	9.672338462	0.033686128	ECM_REGULATORS	1.165965335	1.099188063
IBSP	4.902907179	3.204938584	8.29E-19	4.902907179	0.768992308	6.26E-10	ECM_GLYCOPROTEINS	1.529797545	6.375755818
ITIH6	4.151086154	2.729944452	3.62E-11	4.151086154	1.619492308	1.15E-05	ECM_REGULATORS	1.520575318	2.563202143
LAMA3	12.86893538	9.61444257	3.57E-63	12.86893538	11.86246923	0.033773012	BASEMENT_MEMBRANES	1.338500417	1.084844574
LAMA3	12.86893538	9.61444257	3.57E-63	12.86893538	11.86246923	0.033773012	ECM_GLYCOPROTEINS	1.338500417	1.084844574
LAMA5	14.04234051	12.30493433	7.92E-66	14.04234051	13.42252308	0.02035747	ECM_GLYCOPROTEINS	1.141195892	1.046177416
LAMA5	14.04234051	12.30493433	7.92E-66	14.04234051	13.42252308	0.02035747	BASEMENT_MEMBRANES	1.141195892	1.046177416
LAMB3	13.83676308	10.59206818	4.34E-54	13.83676308	11.90557692	0.000136215	ECM_GLYCOPROTEINS	1.306332517	1.162208532
LAMB3	13.83676308	10.59206818	4.34E-54	13.83676308	11.90557692	0.000136215	BASEMENT_MEMBRANES	1.306332517	1.162208532
LAMC2	13.7035041	9.831347513	2.12E-41	13.7035041	11.45524615	1.74E-05	ECM_GLYCOPROTEINS	1.393858175	1.196264482
LAMC2	13.7035041	9.831347513	2.12E-41	13.7035041	11.45524615	1.74E-05	BASEMENT_MEMBRANES	1.393858175	1.196264482
LAMC3	8.370059487	7.867710874	0.00082982	8.370059487	7.141546154	0.008564238	BASEMENT_MEMBRANES	1.063849399	1.17202344
LAMC3	8.370059487	7.867710874	0.00082982	8.370059487	7.141546154	0.008564238	ECM_GLYCOPROTEINS	1.063849399	1.17202344
LGALS7	6.538820513	2.682360013	5.61E-59	6.538820513	3.982892308	0.030853475	ECM_AFFILIATED	2.437711747	1.641726667
LGALS8	11.95496564	11.28158572	5.82E-25	11.95496564	11.44238462	0.005836635	ECM_AFFILIATED	1.05968841	1.044796696
LOX	10.65215179	9.477059811	4.20E-14	10.65215179	9.4727	0.006010146	ECM_REGULATORS	1.123993307	1.124510625
LOXL2	11.20392256	10.07428463	1.25E-18	11.20392256	9.537892308	2.00E-05	ECM_REGULATORS	1.112130834	1.174674887
LUM	13.26252718	11.42934962	1.70E-15	13.26252718	12.04977692	0.005189877	PROTEOGLYCANS	1.160392115	1.100645038
MFAP2	9.897047692	9.073903157	4.66E-05	9.897047692	7.241015385	2.79E-07	ECM_GLYCOPROTEINS	1.090715596	1.366803848
MMP1	11.52730256	6.627750723	9.65E-65	11.52730256	7.633846154	2.28E-07	ECM_REGULATORS	1.739248057	1.510025527
MMP10	7.774604615	4.533528019	1.12E-33	7.774604615	3.959538462	1.76E-06	ECM_REGULATORS	1.714912665	1.963512841
MMP11	11.27450103	9.858270961	1.25E-11	11.27450103	7.165853846	1.81E-09	ECM_REGULATORS	1.143659073	1.573364636
MMP12	9.635189744	5.270708918	1.28E-57	9.635189744	5.363907692	9.68E-10	ECM_REGULATORS	1.828063339	1.796300439
MMP13	6.751493846	4.357289753	1.04E-15	6.751493846	2.191946154	7.79E-06	ECM_REGULATORS	1.549470939	3.080136724
MMP14	13.57414615	12.90987096	2.51E-07	13.57414615	12.15228462	3.67E-06	ECM_REGULATORS	1.051454828	1.11700364
MMP20	1.108764615	0.592134173	1.54E-09	1.108764615	0.253861538	0.038620348	ECM_REGULATORS	1.872488814	4.367595903
MMP25	7.002941026	6.268618718	1.43E-11	7.002941026	6.280161538	0.037060066	ECM_REGULATORS	1.117142602	1.115089315
MMP3	9.10476359	4.142292602	1.66E-75	9.10476359	4.870730769	1.40E-07	ECM_REGULATORS	2.198001074	1.869280817
MMP7	9.356091795	8.135262776	4.46E-05	9.356091795	6.355438462	0.001330112	ECM_REGULATORS	1.150066329	1.472139468
MMP8	2.66470359	1.926423533	8.29E-06	2.66470359	0.760753846	0.001406696	ECM_REGULATORS	1.383238703	3.502714581
MMP9	9.930635385	9.293933642	0.002397483	9.930635385	7.024846154	2.28E-06	ECM_REGULATORS	1.06850724	1.413644536
MUC16	6.913934359	5.384185087	9.85E-07	6.913934359	3.801884615	0.001467491	ECM_AFFILIATED	1.284118998	1.818554496
MUCL1	3.480963077	2.692369792	0.001980121	3.480963077	0.808192308	0.001656486	ECM_AFFILIATED	1.292899322	4.307097511
NID2	10.12509231	9.115427105	1.32E-12	10.12509231	8.838846154	0.00323724	ECM_GLYCOPROTEINS	1.110764443	1.145521953
NID2	10.12509231	9.115427105	1.32E-12	10.12509231	8.838846154	0.00323724	BASEMENT_MEMBRANES	1.110764443	1.145521953
OGFOD1	10.75158615	10.45417434	2.50E-16	10.75158615	10.34435385	0.009790388	ECM_REGULATORS	1.028449096	1.039367593
PI3	11.93877795	5.438570844	1.08E-90	11.93877795	8.346023077	0.000658415	ECM_REGULATORS	2.195205007	1.43047507
PLAU	11.83188205	10.53550347	1.49E-16	11.83188205	9.151892308	2.57E-08	ECM_REGULATORS	1.123048565	1.292834493
PLOD3	12.04825077	11.61495715	1.03E-08	12.04825077	11.00083077	0.000509551	ECM_REGULATORS	1.037304797	1.095212809
PLXDC1	9.320161026	8.810221397	9.69E-07	9.320161026	8.401207692	0.003938519	ECM_AFFILIATED	1.057880456	1.10938348
PLXNA1	13.12843641	11.47403255	1.33E-69	13.12843641	12.34681538	0.012731139	ECM_AFFILIATED	1.144186785	1.063305476



<b>PLXNA3</b>	11.76699641	10.69586156	4.89E-41	11.76699641	11.09333846	0.009156754	ECM_AFFILIATED	1.100144793	1.06072635
<b>PODNL1</b>	7.979619487	6.538444441	6.45E-19	7.979619487	6.157630769	0.000119323	PROTEOGLYCANS	1.220415583	1.295891194
<b>PXDN</b>	11.84663179	11.25497626	1.10E-05	11.84663179	10.61263077	0.002393483	ECM_GLYCOPROTEINS	1.05256835	1.116276638
<b>SDC1</b>	14.2739241	12.36422045	6.46E-23	14.2739241	12.47496154	0.000207311	ECM_AFFILIATED	1.154454028	1.144205861
<b>SEMA4B</b>	13.53802	11.79546499	1.81E-78	13.53802	12.76428462	0.012051994	ECM_AFFILIATED	1.14773093	1.060617215
<b>SERPINB2</b>	8.234593846	3.854974139	2.55E-59	8.234593846	5.588176923	0.015719074	ECM_REGULATORS	2.136095743	1.473574291
<b>SERPINB3</b>	9.101648205	3.364342102	2.51E-66	9.101648205	6.041546154	0.024003919	ECM_REGULATORS	2.705327796	1.506509753
<b>SERPINB4</b>	7.289621538	2.728945079	4.75E-58	7.289621538	4.201607692	0.01293812	ECM_REGULATORS	2.671223249	1.734960061
<b>SERPINB5</b>	12.49761179	5.535738191	1.54E-85	12.49761179	8.564661538	7.67E-07	ECM_REGULATORS	2.257623349	1.459206734
<b>SERPINB7</b>	6.581345641	3.093882334	2.81E-51	6.581345641	4.2684	0.008356575	ECM_REGULATORS	2.127212651	1.541876497
<b>SERPINB9</b>	10.24224923	9.199020844	2.92E-27	10.24224923	8.871261538	0.000235061	ECM_REGULATORS	1.11340646	1.154542585
<b>SERPINE1</b>	12.31690205	10.74768977	1.22E-21	12.31690205	10.78537692	0.005734948	ECM_REGULATORS	1.146004612	1.142000149
<b>SERPINH1</b>	13.038	12.68452609	0.000590143	13.038	11.48388462	2.73E-06	ECM_REGULATORS	1.027866544	1.135330111
<b>SPON2</b>	10.69802564	10.24663644	0.007812454	10.69802564	9.478461538	0.000222126	ECM_GLYCOPROTEINS	1.044052427	1.128666883
<b>ST14</b>	13.42460256	11.48217639	2.02E-25	13.42460256	12.26475385	0.002816678	ECM_REGULATORS	1.169168815	1.094567631
<b>SULF1</b>	11.96557436	10.89942983	2.41E-09	11.96557436	10.37616154	0.001472433	ECM_REGULATORS	1.097816542	1.153179267
<b>SULF2</b>	13.03585846	11.71216418	1.86E-27	13.03585846	11.6123	0.0001348	ECM_REGULATORS	1.113018761	1.122590569
<b>TGFB1</b>	12.89621333	12.17238885	6.24E-07	12.89621333	11.17114615	0.000567278	ECM_GLYCOPROTEINS	1.059464456	1.154421682
<b>THBS2</b>	11.80440821	11.11429101	3.80E-05	11.80440821	10.50054615	0.013137334	ECM_GLYCOPROTEINS	1.062092777	1.12417088
<b>TINAG</b>	2.590997949	1.575004602	8.04E-06	2.590997949	0.832123077	0.022305541	ECM_GLYCOPROTEINS	1.645073255	3.113719617
<b>TNC</b>	13.37205436	11.82924378	1.32E-18	13.37205436	11.92383846	0.030670438	ECM_GLYCOPROTEINS	1.130423432	1.121455511
<b>TNFAIP6</b>	7.574409744	6.456752307	1.84E-09	7.574409744	6.102261538	0.003454241	ECM_GLYCOPROTEINS	1.173099011	1.241246331
<b>VCAN</b>	12.25474154	11.6322721	0.000343256	12.25474154	11.09766923	0.019360246	PROTEOGLYCANS	1.053512283	1.104262641
<b>WISP1</b>	8.068133846	7.255730357	1.45E-06	8.068133846	5.837430769	1.85E-05	ECM_GLYCOPROTEINS	1.111967155	1.382137821
<b>WNT10A</b>	8.032941538	5.868206431	1.04E-26	8.032941538	5.917769231	0.001659691	SECRETED_FACTORS	1.368892119	1.357427305
<b>WNT11</b>	6.676541538	5.899689413	6.30E-06	6.676541538	5.137553846	0.025053523	SECRETED_FACTORS	1.131676783	1.299556508
<b>WNT2</b>	6.58204	5.44718666	1.93E-07	6.58204	3.668392308	5.48E-07	SECRETED_FACTORS	1.208337516	1.794257388
<b>WNT3A</b>	4.873461538	2.892981229	2.60E-24	4.873461538	2.627853846	0.012568961	SECRETED_FACTORS	1.684581113	1.854540558
<b>WNT5A</b>	11.21177846	8.979624458	5.32E-40	11.21177846	9.713746154	0.001288968	SECRETED_FACTORS	1.248579884	1.154217774
<b>WNT7B</b>	9.563474872	7.379284375	1.23E-16	9.563474872	5.403084615	1.32E-05	SECRETED_FACTORS	1.295989473	1.770002795
<b>VWA9</b>	10.82967846	10.61265181	5.09E-11	10.82967846	10.46946923	0.015702004	ECM_GLYCOPROTEINS	1.020449804	1.034405682
<b>XCL1</b>	5.096330256	4.158361692	1.22E-10	5.096330256	3.825692308	0.01848279	SECRETED_FACTORS	1.225562044	1.332132813
<b>ZPLD1</b>	2.808174359	2.32646436	0.00187849	2.808174359	1.324253846	0.005266199	ECM_GLYCOPROTEINS	1.207056685	2.120571042

**Glioblastoma Multiforme (GBM)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
A2M	14.92080409	14.08456856	3.08E-09	14.92080409	13.3281	0.000210522	ECM_REGULATORS	1.059372464	1.119499711
ADAM12	9.689019298	8.54835507	7.31E-09	9.689019298	7.1656	0.000100881	ECM_REGULATORS	1.133436693	1.352157432
ADAM17	10.76146491	10.17811342	4.41E-11	10.76146491	9.79774	2.56E-05	ECM_REGULATORS	1.057314305	1.09836196
ADAM9	12.52838187	11.81519477	1.81E-12	12.52838187	10.89746	1.90E-05	ECM_REGULATORS	1.060361857	1.149660735
ADAMTS15	8.277893567	7.764800786	0.005238777	8.277893567	6.15078	0.001365331	ECM_REGULATORS	1.066079323	1.345828264
ADAMTS6	7.47978538	5.613373369	1.89E-45	7.47978538	5.10728	1.52E-06	ECM_REGULATORS	1.33249383	1.464534034
ADAMTS9	10.04706784	8.96845603	2.24E-14	10.04706784	8.12938	0.00019715	ECM_REGULATORS	1.120267279	1.235895952
AEBP1	13.40413743	12.89517578	0.00057708	13.40413743	11.05854	0.000426762	ECM_GLYCOPROTEINS	1.039469152	1.212107333
ANGPT2	10.3335848	8.578557541	1.76E-47	10.3335848	6.56438	2.19E-10	SECRETED_FACTORS	1.204583025	1.574190525
ANGPTL2	11.48728538	10.30002002	3.45E-19	11.48728538	9.82668	0.000125598	SECRETED_FACTORS	1.115268257	1.168989463
ANXA5	14.29945439	13.38816387	3.62E-30	14.29945439	11.6682	1.81E-10	ECM_AFFILIATED	1.068066878	1.225506452
C1QA	12.78696901	11.44298469	7.51E-23	12.78696901	10.60316	0.000139674	ECM_AFFILIATED	1.117450503	1.205958319
C1QB	13.47323216	11.57063529	4.30E-40	13.47323216	11.26478	0.000105875	ECM_AFFILIATED	1.164433225	1.196049294
C1QC	13.22345439	11.40477196	1.57E-39	13.22345439	11.12644	0.00012245	ECM_AFFILIATED	1.159466795	1.18847128
C1QL1	11.10762456	5.470629542	1.55E-162	11.10762456	9.54586	0.04693223	ECM_AFFILIATED	2.030410664	1.163606481
C1QTNF1	10.78645556	9.803191698	1.14E-13	10.78645556	8.39614	9.91E-05	ECM_AFFILIATED	1.10030038	1.284692199
C1QTNF5	10.39453275	9.224824415	3.19E-21	10.39453275	8.31122	4.26E-06	ECM_AFFILIATED	1.126800065	1.250662688
CCL25	2.8051	2.245968906	0.006003885	2.8051	1.1001	0.007298855	SECRETED_FACTORS	1.248948724	2.549859104
CELA1	1.973848538	0.601802042	9.74E-74	1.973848538	0.3527	0.011197702	ECM_REGULATORS	3.279896709	5.596395061
CLEC18B	8.844843275	4.291425886	4.03E-107	8.844843275	6.60962	0.000650599	ECM_AFFILIATED	2.061049989	1.338177274
CLEC18C	5.896684795	3.336971755	6.26E-35	5.896684795	3.45574	0.0005729	ECM_AFFILIATED	1.767076627	1.706345036
CLEC1A	6.488012281	6.256580537	0.043885321	6.488012281	5.20304	0.001325695	ECM_AFFILIATED	1.036990133	1.246965674
CLEC4A	6.691049123	6.154100306	5.67E-08	6.691049123	5.20506	0.001450987	ECM_AFFILIATED	1.087250579	1.285489336
CLEC4E	5.952890058	5.397074257	0.000208283	5.952890058	2.30614	6.31E-06	ECM_AFFILIATED	1.10298465	2.581322061
CLEC5A	8.526384211	6.282516645	6.57E-43	8.526384211	5.01384	1.02E-05	ECM_AFFILIATED	1.357160624	1.700569665
COL22A1	8.85425731	6.480732707	9.98E-29	8.85425731	6.35596	0.002023541	COLLAGENS	1.366243249	1.393063724
COL28A1	8.27685731	5.407354682	1.81E-58	8.27685731	6.06172	0.016007492	COLLAGENS	1.530666619	1.36543049
COL4A6	6.94462807	6.147784938	0.000812358	6.94462807	4.95066	0.013248676	BASEMENT_MEMBRANES	1.129614673	1.40276813
COL4A6	6.94462807	6.147784938	0.000812358	6.94462807	4.95066	0.013248676	COLLAGENS	1.129614673	1.40276813
CRISPLD1	11.75843275	7.920171806	1.97E-108	11.75843275	8.618	1.43E-08	ECM_GLYCOPROTEINS	1.484618394	1.364403893
CSF1	11.4924	10.52971149	9.14E-23	11.4924	10.41772	0.01020349	SECRETED_FACTORS	1.091425915	1.103158849
CSPG4	12.00906433	10.12697844	3.26E-34	12.00906433	10.75842	0.011178378	ECM_AFFILIATED	1.18584871	1.116247955
CTSL	12.24415673	11.89488844	0.000350999	12.24415673	11.04692	0.001114008	ECM_REGULATORS	1.029362889	1.108377423
CTSO	10.88078129	10.41942741	7.66E-08	10.88078129	9.74212	0.000409833	ECM_REGULATORS	1.044278237	1.116880236
DMP1	2.393780702	1.437188155	3.40E-15	2.393780702	1.19868	0.026714204	ECM_GLYCOPROTEINS	1.665600077	1.997013967
ECM2	9.647707018	8.074004319	7.23E-31	9.647707018	7.4039	2.99E-05	ECM_GLYCOPROTEINS	1.194909816	1.303057445
EFEMP1	12.94942398	10.3545701	5.10E-45	12.94942398	10.28012	9.68E-05	ECM_GLYCOPROTEINS	1.250599866	1.259656889
EFEMP2	11.61823977	10.48730135	2.81E-23	11.61823977	9.78854	8.52E-05	ECM_GLYCOPROTEINS	1.107838841	1.186922643
ELN	12.09867135	9.960839426	1.91E-33	12.09867135	9.6098	4.18E-06	ECM_GLYCOPROTEINS	1.214623671	1.258993043
EMILIN1	11.02497251	10.71583015	0.03241808	11.02497251	9.33006	0.001857221	ECM_GLYCOPROTEINS	1.028849128	1.181661481
EMILIN3	9.496962573	4.774837108	2.76E-135	9.496962573	7.66324	0.047526473	ECM_GLYCOPROTEINS	1.988960536	1.239288157

EPO	2.917418129	2.129279741	8.99E-07	2.917418129	1.25194	0.00992709	SECRETED_FACTORS	1.370143186	2.33031785
F13A1	10.21198889	9.303279016	1.82E-08	10.21198889	7.60208	0.023026719	ECM_REGULATORS	1.0976763	1.343315104
FAM20C	12.3022807	10.64280416	6.96E-56	12.3022807	10.94456	0.008545014	ECM_REGULATORS	1.155924747	1.124054389
FGF11	10.07708421	7.485597978	9.50E-56	10.07708421	8.68298	0.001727878	SECRETED_FACTORS	1.346196288	1.160555962
FREM2	9.408122807	6.572103656	5.81E-26	9.408122807	7.61154	0.009432587	ECM_AFFILIATED	1.431523801	1.236034075
GPC2	8.460523977	5.339490218	3.68E-94	8.460523977	6.59618	0.009484983	ECM_AFFILIATED	1.584519052	1.282639949
HPSE	8.182471345	7.779119534	0.000808658	8.182471345	6.72414	0.005431225	ECM_REGULATORS	1.051850574	1.216879979
HYAL2	11.41889766	11.18846337	0.000155815	11.41889766	9.34486	3.84E-12	ECM_REGULATORS	1.020595705	1.22194422
IBSP	7.619619298	3.261130655	5.10E-104	7.619619298	3.27828	0.000281774	ECM_GLYCOPROTEINS	2.336496174	2.32427349
IGFBP1	5.678107018	2.828676024	2.24E-27	5.678107018	3.26974	0.000565389	ECM_GLYCOPROTEINS	2.007337344	1.73656224
IGFBP2	13.51584327	11.64802408	6.91E-26	13.51584327	8.24424	1.07E-11	ECM_GLYCOPROTEINS	1.160355025	1.639428653
IGFBP5	14.81711287	13.33117424	1.14E-16	14.81711287	13.27962	0.006107684	ECM_GLYCOPROTEINS	1.111463447	1.115778378
IGFBP7	14.40253801	13.40811877	1.93E-23	14.40253801	11.66528	8.51E-08	ECM_GLYCOPROTEINS	1.074165456	1.234650005
LAMA2	10.24906608	8.543781701	1.17E-25	10.24906608	9.1419	0.024603957	ECM_GLYCOPROTEINS	1.199593627	1.121108969
LAMA2	10.24906608	8.543781701	1.17E-25	10.24906608	9.1419	0.024603957	BASEMENT_MEMBRANES	1.199593627	1.121108969
LAMA4	11.26409357	10.94833087	0.019152065	11.26409357	9.20852	1.66E-05	ECM_GLYCOPROTEINS	1.028841172	1.223225184
LAMA4	11.26409357	10.94833087	0.019152065	11.26409357	9.20852	1.66E-05	BASEMENT_MEMBRANES	1.028841172	1.223225184
LAMB4	4.150412281	3.022570295	5.27E-16	4.150412281	1.17232	4.33E-08	ECM_GLYCOPROTEINS	1.373140035	3.540340761
LAMB4	4.150412281	3.022570295	5.27E-16	4.150412281	1.17232	4.33E-08	BASEMENT_MEMBRANES	1.373140035	3.540340761
LAMC3	9.413076608	7.734006658	3.29E-25	9.413076608	8.37412	0.023318582	ECM_GLYCOPROTEINS	1.217102212	1.124067557
LAMC3	9.413076608	7.734006658	3.29E-25	9.413076608	8.37412	0.023318582	BASEMENT_MEMBRANES	1.217102212	1.124067557
LGALS1	13.43515614	12.75693088	2.57E-10	13.43515614	11.47842	4.48E-05	ECM_AFFILIATED	1.053165238	1.170470861
LOX	10.00684795	9.666983029	0.030015082	10.00684795	6.5775	2.55E-05	ECM_REGULATORS	1.03515729	1.521375592
LOXL3	10.0967117	7.745675268	1.19E-97	10.0967117	7.88156	1.58E-11	ECM_REGULATORS	1.303528917	1.281054981
MASP1	10.83901813	6.007358593	3.27E-79	10.83901813	8.93504	0.007579586	ECM_REGULATORS	1.804290182	1.21309117
MATN2	11.78138187	10.21987741	1.22E-28	11.78138187	10.16568	0.000357027	ECM_GLYCOPROTEINS	1.152790919	1.15893692
MATN3	7.555430409	6.422352037	8.13E-11	7.555430409	6.55734	0.04471118	ECM_GLYCOPROTEINS	1.176427322	1.152209647
MFAP3	8.959746784	8.775480752	0.035689467	8.959746784	8.42072	0.045404131	ECM_GLYCOPROTEINS	1.020997828	1.064011959
MMP25	7.214401754	6.312897651	9.34E-15	7.214401754	4.7201	4.13E-05	ECM_REGULATORS	1.142803535	1.528442566
MMRN1	7.664406433	6.709784938	8.02E-08	7.664406433	5.85858	0.000337644	ECM_GLYCOPROTEINS	1.142273039	1.308236199
NGLY1	10.09700409	9.985555438	0.014202023	10.09700409	9.4496	4.04E-05	ECM_REGULATORS	1.011160987	1.06851127
NID1	11.75846433	11.42389893	0.005053943	11.75846433	8.65532	2.36E-09	BASEMENT_MEMBRANES	1.029286446	1.358524506
NID1	11.75846433	11.42389893	0.005053943	11.75846433	8.65532	2.36E-09	ECM_GLYCOPROTEINS	1.029286446	1.358524506
NTN1	11.32829766	8.219197304	2.15E-69	11.32829766	9.07214	6.07E-06	ECM_GLYCOPROTEINS	1.378272992	1.24869079
NTN1	11.32829766	8.219197304	2.15E-69	11.32829766	9.07214	6.07E-06	BASEMENT_MEMBRANES	1.378272992	1.24869079
PLAT	11.39158947	10.87718591	0.001089954	11.39158947	9.59414	0.000458037	ECM_REGULATORS	1.047291971	1.187348681
PLOD2	11.57145146	11.20386516	0.008848531	11.57145146	9.72598	4.70E-05	ECM_REGULATORS	1.032808883	1.189746582
PLXNA3	11.11822047	10.71939606	3.41E-06	11.11822047	10.17876	0.007993257	ECM_AFFILIATED	1.037205866	1.092296161
PXDNL	6.287045614	4.518930379	8.02E-29	6.287045614	4.24882	0.004668019	ECM_GLYCOPROTEINS	1.391268527	1.479715689
SERPINA3	14.45566374	9.066903829	3.10E-58	14.45566374	10.92132	7.31E-06	ECM_REGULATORS	1.594332974	1.323618733
SERPINA5	7.74141462	6.563903441	8.94E-05	7.74141462	4.65622	9.07E-05	ECM_REGULATORS	1.17939191	1.662596402
SERPINB6	12.22094795	11.89663158	4.42E-06	12.22094795	10.95826	4.51E-06	ECM_REGULATORS	1.027261193	1.115227048
SERPINB8	9.339094152	8.817767763	2.41E-08	9.339094152	8.17354	0.000325245	ECM_REGULATORS	1.059122264	1.142600899
SERPINE1	11.93378596	10.86046701	1.82E-10	11.93378596	8.37998	3.27E-05	ECM_REGULATORS	1.098828067	1.42408287
SPARC	16.74061637	15.03396626	8.73E-45	16.74061637	13.82872	1.18E-12	ECM_GLYCOPROTEINS	1.113519618	1.210568756
SPP1	16.22759181	11.86787706	1.85E-72	16.22759181	13.77804	0.001201029	ECM_GLYCOPROTEINS	1.367354223	1.177786667

<b>SRGN</b>	11.83501754	10.95284832	2.97E-14	11.83501754	9.99404	0.000992635	PROTEOGLYCANS	1.080542449	1.184207542
<b>SRPX</b>	11.16343392	8.003414041	1.91E-74	11.16343392	8.07598	1.18E-05	ECM_GLYCOPROTEINS	1.394833987	1.382300838
<b>SRPX2</b>	9.372615205	7.769879659	3.15E-20	9.372615205	4.73826	1.76E-08	ECM_GLYCOPROTEINS	1.206275466	1.978071107
<b>TGM5</b>	4.991847953	2.902514786	2.84E-24	4.991847953	1.55432	0.00024444	ECM_REGULATORS	1.719835495	3.211596038
<b>TIMP4</b>	11.04222105	4.989430644	1.98E-260	11.04222105	7.32874	3.44E-07	ECM_REGULATORS	2.213122466	1.506701159
<b>TNC</b>	14.00795497	11.78978764	7.62E-33	14.00795497	10.10318	7.00E-10	ECM_GLYCOPROTEINS	1.188143111	1.386489696
<b>TNFAIP6</b>	8.519797661	6.560521832	6.10E-24	8.519797661	6.29632	0.001107522	ECM_GLYCOPROTEINS	1.298646339	1.35313924
<b>VCAN</b>	12.93575263	11.54805434	1.86E-14	12.93575263	11.1978	1.04E-05	PROTEOGLYCANS	1.120167281	1.155204829
<b>WISP1</b>	7.917148538	7.472480874	0.009447198	7.917148538	5.7609	0.019244273	ECM_GLYCOPROTEINS	1.059507367	1.374290222
<b>WNT5A</b>	9.941411111	9.054258664	7.64E-07	9.941411111	8.03454	2.70E-05	SECRETED_FACTORS	1.097981787	1.237334198
<b>VWF</b>	12.51642164	12.22619669	0.015786384	12.51642164	11.3773	0.00838525	ECM_GLYCOPROTEINS	1.023737958	1.100122317

**Head And Neck Squamous Cell Carcinoma (HNSC)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
ADAM12	9.948067376	8.350742022	1.05E-45	9.948067376	6.419404545	2.34E-28	ECM_REGULATORS	1.191279452	1.549686938
ADAM17	10.95340993	10.14128815	5.93E-62	10.95340993	10.377175	0.000453842	ECM_REGULATORS	1.080080732	1.055529075
ADAM19	9.921342199	8.982960699	1.25E-40	9.921342199	8.620761364	8.28E-09	ECM_REGULATORS	1.104462385	1.150866122
ADAM23	8.840080319	6.703816141	5.92E-74	8.840080319	7.994961364	0.012746523	ECM_REGULATORS	1.318663897	1.105706446
ADAM8	10.0261734	8.674758783	7.23E-74	10.0261734	8.335984091	1.59E-16	ECM_REGULATORS	1.155786997	1.202758222
ADAM9	12.10201826	11.80565268	1.84E-07	12.10201826	11.72331364	0.004994061	ECM_REGULATORS	1.025103702	1.032303548
ADAMDEC1	6.715496277	6.075688093	1.18E-07	6.715496277	4.908579545	3.64E-07	ECM_REGULATORS	1.105306292	1.368113976
ADAMTS12	8.898492199	8.012440085	4.44E-18	8.898492199	5.717672727	7.89E-24	ECM_REGULATORS	1.110584554	1.556313665
ADAMTS14	7.776204965	6.612327525	9.53E-37	7.776204965	5.892034091	1.66E-16	ECM_REGULATORS	1.176016302	1.319782752
ADAMTS15	8.207466489	7.84373793	0.000346353	8.207466489	7.277186364	0.003149876	ECM_REGULATORS	1.04637184	1.127835138
ADAMTS2	10.75396879	9.443182303	2.43E-48	10.75396879	7.706502273	9.48E-25	ECM_REGULATORS	1.138807708	1.395440942
ADAMTS20	3.076375	1.652162821	1.78E-46	3.076375	0.291618182	1.48E-12	ECM_REGULATORS	1.862028948	10.54932508
ADAMTS4	9.474466135	9.181597333	0.000378262	9.474466135	8.540547727	3.66E-05	ECM_REGULATORS	1.031897369	1.109351114
AGRN	13.96252376	13.21509687	1.69E-39	13.96252376	12.43534091	1.06E-22	ECM_GLYCOPROTEINS	1.056558563	1.12280989
AGRN	13.96252376	13.21509687	1.69E-39	13.96252376	12.43534091	1.06E-22	BASEMENT_MEMBRANES	1.056558563	1.12280989
ANXA10	2.54477234	2.193632586	0.015295502	2.54477234	1.33505	0.000767955	ECM_AFFILIATED	1.160072273	1.906125119
ANXA8	13.16645603	4.785109393	0	13.16645603	12.71096364	0.028187346	ECM_AFFILIATED	2.751547551	1.035834607
ANXA8L1	12.07652571	4.967643938	0	12.07652571	11.53127273	0.016651098	ECM_AFFILIATED	2.431036898	1.047284718
ARTN	7.862509752	5.254881498	1.00E-176	7.862509752	4.71635	3.59E-26	SECRETED_FACTORS	1.496229697	1.667075122
ASPN	9.140427837	8.403881748	1.73E-11	9.140427837	7.020922727	3.34E-11	PROTEOGLYCANS	1.087643557	1.301884124
BGN	13.43368511	13.2532102	0.038932474	13.43368511	11.83328182	4.62E-11	PROTEOGLYCANS	1.013617449	1.135245937
BMP1	11.46753635	10.57772517	4.05E-78	11.46753635	9.818897727	3.24E-28	ECM_REGULATORS	1.084121223	1.167904653
BMP2	9.608940426	7.888544515	2.91E-61	9.608940426	8.775618182	0.000180573	SECRETED_FACTORS	1.218087875	1.094958808
C1QTNF1	10.26840638	9.864086471	3.74E-08	10.26840638	9.524468182	0.000113333	ECM_AFFILIATED	1.040989088	1.078108109
C1QTNF6	10.02811401	9.306514889	5.48E-34	10.02811401	7.322515909	1.07E-28	ECM_AFFILIATED	1.077536986	1.369490231
CCL11	5.397409574	3.82493177	1.55E-37	5.397409574	2.269229545	1.57E-19	SECRETED_FACTORS	1.411112642	2.378520756
CCL18	9.035768972	6.932424042	4.52E-47	9.035768972	7.828165909	0.000196076	SECRETED_FACTORS	1.303406848	1.154263857
CCL20	8.126826596	5.783442632	1.80E-56	8.126826596	6.537947727	1.44E-05	SECRETED_FACTORS	1.405188417	1.243024101
CCL26	4.805993794	3.033188246	2.19E-97	4.805993794	3.874595455	0.002014565	SECRETED_FACTORS	1.584469346	1.240385958
CCL3	7.679767199	7.449845244	0.001895206	7.679767199	6.691304545	1.37E-05	SECRETED_FACTORS	1.030862648	1.147723459
CCL4	7.884945035	7.697607401	0.010304435	7.884945035	7.254159091	0.004721971	SECRETED_FACTORS	1.024337125	1.086955075
CCL5	10.41276259	9.278506976	2.45E-38	10.41276259	9.162879545	2.40E-06	SECRETED_FACTORS	1.122245488	1.136407233
CCL7	3.09194078	2.225775566	4.88E-22	3.09194078	1.5775	5.00E-08	SECRETED_FACTORS	1.38915209	1.960025851
CD109	12.0543422	9.638371256	1.22E-182	12.0543422	10.98536591	2.34E-11	ECM_REGULATORS	1.250661743	1.09730912
CLCF1	7.861660106	7.690002013	0.027969312	7.861660106	7.222940909	0.001436758	SECRETED_FACTORS	1.022322243	1.088429243
CLEC12A	5.475124823	5.085718143	2.83E-05	5.475124823	3.7949	8.28E-10	ECM_AFFILIATED	1.076568671	1.442758656
CLEC12B	2.127197695	1.684964628	8.52E-10	2.127197695	0.923445455	2.03E-06	ECM_AFFILIATED	1.262458369	2.303544497
CLEC2B	9.558077128	8.063107423	9.99E-115	9.558077128	9.0737	0.017736648	ECM_AFFILIATED	1.185408631	1.053382537
CLEC4D	2.632829965	2.265460601	4.06E-06	2.632829965	1.790034091	0.0001252	ECM_AFFILIATED	1.162161003	1.470826717
CLEC6A	1.689381915	1.437028124	0.000207915	1.689381915	0.695747727	7.37E-06	ECM_AFFILIATED	1.175608109	2.428152977
CLEC7A	9.047491844	7.68305222	9.55E-74	9.047491844	7.725547727	1.04E-08	ECM_AFFILIATED	1.17759083	1.17111332
COL10A1	8.292123582	6.767186112	3.39E-21	8.292123582	3.586397727	1.49E-26	COLLAGENS	1.225342919	2.312103735



COL11A1	8.577338475	7.421047464	3.83E-12	8.577338475	4.628520455	7.38E-16	COLLAGENS	1.155812372	1.853149091
COL12A1	12.89354734	11.16124339	2.86E-53	12.89354734	10.255075	1.51E-21	COLLAGENS	1.155207076	1.257284548
COL13A1	7.113368972	6.322005039	1.00E-21	7.113368972	4.840290909	6.40E-29	COLLAGENS	1.1251761	1.469616001
COL16A1	11.77041348	10.36012609	4.36E-61	11.77041348	10.17894091	1.64E-14	COLLAGENS	1.136126469	1.156349524
COL17A1	14.78535408	7.260558424	0	14.78535408	13.81915	0.001286475	COLLAGENS	2.036393513	1.069917765
COL1A1	16.26503759	14.59467244	2.55E-35	16.26503759	12.85541818	1.62E-23	COLLAGENS	1.114450335	1.265228199
COL1A2	15.49162748	14.42088372	3.59E-20	15.49162748	12.93503864	3.90E-16	COLLAGENS	1.074249525	1.197648335
COL22A1	7.618780851	6.534245331	1.35E-19	7.618780851	4.991179545	3.54E-10	COLLAGENS	1.165977166	1.526448965
COL24A1	5.590579787	5.304828298	0.001318744	5.590579787	4.103320455	1.28E-08	COLLAGENS	1.053866303	1.36245264
COL27A1	10.6764695	9.516521506	2.20E-50	10.6764695	8.75675	4.88E-23	COLLAGENS	1.121887813	1.219227396
COL2A1	4.706288121	4.212122029	0.000961517	4.706288121	2.003331818	9.09E-15	COLLAGENS	1.117319985	2.349230456
COL3A1	15.58749362	14.16122497	2.36E-28	15.58749362	12.74591364	8.53E-18	COLLAGENS	1.100716474	1.22294047
COL4A1	13.46562908	13.20038037	0.001550095	13.46562908	10.77245455	3.34E-31	COLLAGENS	1.02009402	1.250005653
COL4A1	13.46562908	13.20038037	0.001550095	13.46562908	10.77245455	3.34E-31	BASEMENT_MEMBRANES	1.02009402	1.250005653
COL4A2	13.7168477	13.46444425	0.001752434	13.7168477	11.2737	3.45E-29	COLLAGENS	1.018745923	1.216712144
COL4A2	13.7168477	13.46444425	0.001752434	13.7168477	11.2737	3.45E-29	BASEMENT_MEMBRANES	1.018745923	1.216712144
COL4A5	11.00873528	9.093607706	1.20E-78	11.00873528	9.027431818	1.80E-19	BASEMENT_MEMBRANES	1.210601517	1.219475871
COL4A5	11.00873528	9.093607706	1.20E-78	11.00873528	9.027431818	1.80E-19	COLLAGENS	1.210601517	1.219475871
COL4A6	9.309090603	5.843072094	7.72E-163	9.309090603	7.164411364	1.34E-08	COLLAGENS	1.593184279	1.299351772
COL4A6	9.309090603	5.843072094	7.72E-163	9.309090603	7.164411364	1.34E-08	BASEMENT_MEMBRANES	1.593184279	1.299351772
COL5A1	13.24905248	11.70819783	1.46E-47	13.24905248	10.263775	3.03E-23	COLLAGENS	1.131604767	1.290855702
COL5A2	12.72768936	11.42975977	5.35E-41	12.72768936	9.799897727	1.27E-23	COLLAGENS	1.113557031	1.298757366
COL5A3	11.02522979	9.373327384	1.83E-94	11.02522979	9.206318182	2.11E-15	COLLAGENS	1.176234365	1.197572099
COL6A1	13.86867465	13.21081672	1.27E-18	13.86867465	11.89552727	1.48E-15	COLLAGENS	1.049796916	1.165873049
COL6A1	13.86867465	13.21081672	1.27E-18	13.86867465	11.89552727	1.48E-15	BASEMENT_MEMBRANES	1.049796916	1.165873049
COL6A2	14.13536099	13.24389445	1.38E-23	14.13536099	12.363275	7.22E-13	COLLAGENS	1.067311511	1.143334674
COL6A2	14.13536099	13.24389445	1.38E-23	14.13536099	12.363275	7.22E-13	BASEMENT_MEMBRANES	1.067311511	1.143334674
COL6A3	13.75072589	12.54847187	1.63E-23	13.75072589	11.27796818	9.27E-17	BASEMENT_MEMBRANES	1.095808799	1.219255602
COL6A3	13.75072589	12.54847187	1.63E-23	13.75072589	11.27796818	9.27E-17	COLLAGENS	1.095808799	1.219255602
COL7A1	13.42070461	8.794812919	0	13.42070461	11.14698864	4.35E-26	COLLAGENS	1.525979544	1.203975804
COL8A2	9.681838652	8.872417403	1.37E-18	9.681838652	8.981990909	0.001004895	COLLAGENS	1.091228942	1.077916773
CRELD2	10.58404149	10.36891182	3.54E-09	10.58404149	10.11055	2.91E-06	ECM_GLYCOPROTEINS	1.020747565	1.046831428
CRISPLD2	10.38468511	10.21860656	0.029887909	10.38468511	9.622375	0.000251088	ECM_GLYCOPROTEINS	1.016252563	1.079222656
CRLF3	9.561390957	8.999731443	1.75E-48	9.561390957	9.312945455	0.013262946	SECRETED_FACTORS	1.062408475	1.026677436
CSF2	4.917521631	1.803928526	1.94E-247	4.917521631	1.779447727	1.20E-16	SECRETED_FACTORS	2.726006912	2.763510024
CSH2	0.50612961	0.354145385	0.000718265	0.50612961	0.027243182	0.005772246	SECRETED_FACTORS	1.429157716	18.57821209
CSPG4	11.51334344	10.21595992	8.57E-50	11.51334344	9.946181818	1.39E-07	ECM_AFFILIATED	1.126995753	1.157564144
CST1	6.577290957	4.974311134	3.28E-19	6.577290957	4.508120455	0.000403519	ECM_REGULATORS	1.32225162	1.458987404
CSTL1	0.795301773	0.531965836	3.24E-10	0.795301773	0.456052273	0.016950456	ECM_REGULATORS	1.495024153	1.743882929
CTHRC1	9.880125887	8.99135062	1.74E-15	9.880125887	6.681602273	3.89E-26	ECM_GLYCOPROTEINS	1.098847804	1.478706077
CTSB	15.5636984	15.22599296	9.42E-10	15.5636984	15.11861364	0.000245571	ECM_REGULATORS	1.022179535	1.029439523
CTSC	13.31164982	12.06247845	7.12E-79	13.31164982	12.156625	3.00E-13	ECM_REGULATORS	1.103558434	1.095011964
CTSK	11.05114326	10.316325	4.65E-16	11.05114326	9.913252273	2.69E-06	ECM_REGULATORS	1.071228685	1.114784831
CTSV	11.08001206	7.038075392	1.51E-301	11.08001206	9.122595455	2.65E-15	ECM_REGULATORS	1.574295733	1.21456795
CXCL1	10.01229291	6.587876067	1.75E-132	10.01229291	9.311431818	0.038088185	SECRETED_FACTORS	1.519805899	1.075268885
CXCL10	10.17109929	8.216557989	7.63E-65	10.17109929	7.718206818	8.83E-09	SECRETED_FACTORS	1.237878355	1.317806005

CXCL11	8.059074113	6.317128309	1.18E-52	8.059074113	5.387018182	3.57E-09	SECRETED_FACTORS	1.275749632	1.496017619
CXCL13	8.683501064	6.126360231	1.29E-68	8.683501064	5.522095455	4.54E-19	SECRETED_FACTORS	1.417399685	1.57250108
CXCL3	6.127595922	5.265943317	7.62E-14	6.127595922	5.365513636	0.008202595	SECRETED_FACTORS	1.163627398	1.142033426
CXCL5	6.144514184	5.007960057	1.50E-14	6.144514184	4.388020455	3.53E-05	SECRETED_FACTORS	1.226949519	1.400292968
CXCL8	10.49552943	7.774415085	1.31E-111	10.49552943	8.950822727	2.29E-06	SECRETED_FACTORS	1.350008884	1.172577064
CXCL9	10.44496365	8.855705986	2.27E-35	10.44496365	8.271879545	8.54E-08	SECRETED_FACTORS	1.179461431	1.262707417
EGFL6	8.145789539	5.613663158	7.79E-82	8.145789539	6.792277273	8.94E-09	SECRETED_FACTORS	1.451064895	1.199272234
EGFLAM	7.889874645	7.639742403	0.001291868	7.889874645	7.079447727	2.93E-05	ECM_GLYCOPROTEINS	1.032740926	1.114476008
EGLN3	10.46199149	9.469607858	8.70E-22	10.46199149	9.636084091	0.00184461	ECM_REGULATORS	1.104796698	1.085709858
EPO	2.394135993	2.125263975	0.002913864	2.394135993	1.706686364	0.013060045	SECRETED_FACTORS	1.126512293	1.402797868
F12	9.042606915	7.072578026	2.49E-74	9.042606915	8.526218182	0.004633166	ECM_REGULATORS	1.278544667	1.060564804
FBN1	11.47918032	11.2276634	0.001784653	11.47918032	10.79095682	0.012769299	ECM_GLYCOPROTEINS	1.022401537	1.063777801
FBN2	8.900113475	7.06951108	8.45E-61	8.900113475	6.250988636	1.92E-12	ECM_GLYCOPROTEINS	1.258943281	1.423792938
FGF11	9.828681028	7.455610263	1.09E-139	9.828681028	9.034220455	0.000184517	SECRETED_FACTORS	1.318293296	1.087939029
FGF19	2.173263298	1.87229003	0.010612808	2.173263298	0.557827273	0.000101682	SECRETED_FACTORS	1.160751413	3.895943071
FNDC1	8.842	8.254219536	1.36E-05	8.842	6.809625	6.12E-09	ECM_GLYCOPROTEINS	1.071209696	1.298456229
GPC1	13.63316241	11.38650372	3.91E-255	13.63316241	12.97210909	1.19E-06	ECM_AFFILIATED	1.197308914	1.050959587
GREM1	10.27995904	7.815446474	5.00E-58	10.27995904	7.713704545	4.19E-17	ECM_AFFILIATED	1.315338679	1.332687684
HAPLN1	5.888536348	5.192622214	1.54E-07	5.888536348	2.883011364	5.83E-25	PROTEOGLYCANS	1.134019789	2.042495018
HAPLN3	9.942170213	8.387811025	2.97E-92	9.942170213	9.083365909	1.21E-07	PROTEOGLYCANS	1.18531166	1.094546924
HMSD	4.224640426	2.728630736	1.40E-69	4.224640426	3.036027273	6.28E-05	ECM_REGULATORS	1.548263886	1.391502792
HSPG2	13.66084131	13.38147567	1.92E-05	13.66084131	12.84305909	5.53E-07	BASEMENT_MEMBRANES	1.020877043	1.063675034
HSPG2	13.66084131	13.38147567	1.92E-05	13.66084131	12.84305909	5.53E-07	PROTEOGLYCANS	1.020877043	1.063675034
HTRA1	12.09709929	11.83951613	0.001648197	12.09709929	10.749425	9.10E-11	ECM_REGULATORS	1.021756224	1.125371756
HTRA3	10.29356773	9.168616141	2.76E-26	10.29356773	8.240006818	3.13E-13	ECM_REGULATORS	1.122695898	1.249218351
IBSP	4.392891489	3.203609632	1.18E-24	4.392891489	1.263134091	1.03E-19	ECM_GLYCOPROTEINS	1.371231827	3.4777713
IGFBP3	12.74142465	12.2994363	1.22E-06	12.74142465	11.46306136	1.05E-07	ECM_GLYCOPROTEINS	1.035935659	1.111520234
KCP	6.914541844	5.804015945	3.46E-28	6.914541844	6.235527273	0.002152512	ECM_GLYCOPROTEINS	1.1913375	1.108894491
LAMA1	7.705062234	7.464246593	0.042844921	7.705062234	5.303031818	6.17E-10	BASEMENT_MEMBRANES	1.032262552	1.452954178
LAMA1	7.705062234	7.464246593	0.042844921	7.705062234	5.303031818	6.17E-10	ECM_GLYCOPROTEINS	1.032262552	1.452954178
LAMA3	13.33518741	9.549523324	3.57E-248	13.33518741	11.13958182	7.59E-16	BASEMENT_MEMBRANES	1.396424404	1.197099463
LAMA3	13.33518741	9.549523324	3.57E-248	13.33518741	11.13958182	7.59E-16	ECM_GLYCOPROTEINS	1.396424404	1.197099463
LAMA5	12.86174521	12.24232562	2.69E-23	12.86174521	12.09035909	1.31E-10	ECM_GLYCOPROTEINS	1.050596562	1.063801754
LAMA5	12.86174521	12.24232562	2.69E-23	12.86174521	12.09035909	1.31E-10	BASEMENT_MEMBRANES	1.050596562	1.063801754
LAMB1	12.51245621	12.20358609	2.34E-05	12.51245621	11.19618636	4.26E-17	ECM_GLYCOPROTEINS	1.025309783	1.117564124
LAMB1	12.51245621	12.20358609	2.34E-05	12.51245621	11.19618636	4.26E-17	BASEMENT_MEMBRANES	1.025309783	1.117564124
LAMB3	14.67629291	10.41794833	1.96E-277	14.67629291	13.03279773	2.30E-15	ECM_GLYCOPROTEINS	1.408750786	1.126104557
LAMB3	14.67629291	10.41794833	1.96E-277	14.67629291	13.03279773	2.30E-15	BASEMENT_MEMBRANES	1.408750786	1.126104557
LAMC1	12.95617128	12.82066114	0.019953475	12.95617128	11.89305682	1.51E-13	BASEMENT_MEMBRANES	1.010569668	1.089389505
LAMC1	12.95617128	12.82066114	0.019953475	12.95617128	11.89305682	1.51E-13	ECM_GLYCOPROTEINS	1.010569668	1.089389505
LAMC2	14.71451206	9.673943753	1.30E-198	14.71451206	11.42653636	3.18E-26	ECM_GLYCOPROTEINS	1.521045856	1.287749112
LAMC2	14.71451206	9.673943753	1.30E-198	14.71451206	11.42653636	3.18E-26	BASEMENT_MEMBRANES	1.521045856	1.287749112
LGALS1	13.23956294	12.66720456	9.28E-21	13.23956294	11.61540455	6.15E-14	ECM_AFFILIATED	1.045184269	1.139827967
LOX	10.29464043	9.47525591	5.32E-19	10.29464043	8.968677273	5.47E-08	ECM_REGULATORS	1.086476241	1.14784378
LOXL1	9.525580851	9.174167468	5.06E-05	9.525580851	8.799395455	0.000308855	ECM_REGULATORS	1.038304662	1.082526737
LOXL2	10.87377535	10.13900373	8.16E-22	10.87377535	7.924936364	1.03E-29	ECM_REGULATORS	1.072469805	1.372096236

LTBP1	12.13962039	10.73405085	2.57E-81	12.13962039	10.62178409	5.42E-11	ECM_GLYCOPROTEINS	1.13094493	1.142898433
LTBP2	12.01934007	11.21481983	2.12E-21	12.01934007	11.17380227	7.87E-06	ECM_GLYCOPROTEINS	1.071737242	1.075671448
LUM	12.83399504	11.49733654	3.87E-22	12.83399504	10.91654318	2.93E-13	PROTEOGLYCANS	1.1162581	1.175646431
MFAP1	10.56507872	10.35962327	6.98E-21	10.56507872	10.41875227	0.010646991	ECM_GLYCOPROTEINS	1.019832329	1.014044527
MFAP2	10.90941702	8.904379745	2.70E-64	10.90941702	7.977972727	4.73E-30	ECM_GLYCOPROTEINS	1.225174278	1.367442256
MMP1	12.68449504	6.509346419	9.05E-286	12.68449504	7.607865909	2.10E-26	ECM_REGULATORS	1.948658777	1.667286883
MMP10	10.23030355	4.176157259	0	10.23030355	6.923118182	1.51E-11	ECM_REGULATORS	2.449693082	1.477701706
MMP11	11.05668812	9.817103461	1.50E-23	11.05668812	6.673270455	6.14E-30	ECM_REGULATORS	1.126267861	1.656861983
MMP12	10.06848564	5.248954386	7.94E-187	10.06848564	6.373284091	6.33E-27	ECM_REGULATORS	1.918188823	1.579795517
MMP13	9.423479078	3.879871474	1.96E-236	9.423479078	4.072188636	7.78E-21	ECM_REGULATORS	2.428812176	2.314106717
MMP14	14.19266507	12.80056123	8.42E-76	14.19266507	12.78506591	8.69E-22	ECM_REGULATORS	1.108753344	1.110097138
MMP17	7.641632624	6.561373182	7.99E-27	7.641632624	6.440379545	6.47E-09	ECM_REGULATORS	1.164639232	1.186518989
MMP19	8.607979078	7.869768524	7.14E-23	8.607979078	7.177961364	2.95E-12	ECM_REGULATORS	1.093803338	1.199223379
MMP2	12.99935195	12.20524881	1.55E-19	12.99935195	11.67833182	2.58E-07	ECM_REGULATORS	1.065062429	1.113117195
MMP25	7.006467021	6.273813703	2.17E-29	7.006467021	6.292288636	0.000270202	ECM_REGULATORS	1.116779578	1.113500576
MMP28	9.381712943	6.980837886	1.72E-147	9.381712943	8.479990909	0.001574075	ECM_REGULATORS	1.343923623	1.10633526
MMP3	10.09752518	4.050837788	5.36E-304	10.09752518	6.433013636	7.50E-15	ECM_REGULATORS	2.49270045	1.569641501
MMP7	9.027723404	8.186261406	2.85E-06	9.027723404	7.051911364	1.28E-05	ECM_REGULATORS	1.102789534	1.280181066
MMP8	2.558814539	2.003374782	3.55E-08	2.558814539	0.998368182	5.69E-07	ECM_REGULATORS	1.277252046	2.562996884
MMP9	11.62381312	9.218202699	1.34E-85	11.62381312	7.799352273	4.13E-29	ECM_REGULATORS	1.260963064	1.490356213
MXRA5	11.9320406	10.96681191	6.89E-18	11.9320406	11.27	0.008792321	ECM_GLYCOPROTEINS	1.088013609	1.05874362
NELL2	10.07812039	7.786844362	5.96E-86	10.07812039	7.361497727	1.34E-13	ECM_GLYCOPROTEINS	1.294249624	1.369031244
NPNT	10.70802979	10.23714763	6.68E-05	10.70802979	9.329920455	3.13E-10	ECM_GLYCOPROTEINS	1.045997399	1.147708583
NPNT	10.70802979	10.23714763	6.68E-05	10.70802979	9.329920455	3.13E-10	BASEMENT_MEMBRANES	1.045997399	1.147708583
P4HA2	11.68479043	10.62915453	9.97E-63	11.68479043	10.56820455	1.18E-13	ECM_REGULATORS	1.099315133	1.105655211
PAPLN	9.446656738	9.232874075	0.005014819	9.446656738	8.482959091	8.09E-07	ECM_GLYCOPROTEINS	1.023154509	1.113603948
PAPLN	9.446656738	9.232874075	0.005014819	9.446656738	8.482959091	8.09E-07	BASEMENT_MEMBRANES	1.023154509	1.113603948
PLAU	12.92889716	10.34115838	5.05E-183	12.92889716	10.50826136	3.43E-25	ECM_REGULATORS	1.250236839	1.2303555
PLXNA1	12.77613812	11.39477878	6.11E-139	12.77613812	11.51009091	5.86E-23	ECM_AFFILIATED	1.121227395	1.109994545
PLXNB2	13.8183516	13.65677356	2.54E-05	13.8183516	13.61067273	0.029434193	ECM_AFFILIATED	1.011831347	1.015258531
PLXNB3	9.12092039	8.229032259	7.74E-15	9.12092039	8.265372727	1.16E-07	ECM_AFFILIATED	1.108383113	1.103509871
PODNL1	8.254925355	6.502546702	7.54E-75	8.254925355	7.558140909	0.000436448	PROTEOGLYCANS	1.269491129	1.092189925
POSTN	12.17274202	10.82205528	1.15E-18	12.17274202	9.266120455	1.64E-16	ECM_GLYCOPROTEINS	1.124808709	1.313682687
SDC1	15.40230408	12.08857194	1.92E-204	15.40230408	14.80989318	0.000106916	ECM_AFFILIATED	1.274121058	1.040001024
SEMA3C	11.11344663	9.935833391	3.90E-25	11.11344663	10.06454091	3.30E-05	ECM_AFFILIATED	1.118521838	1.10421794
SEMA4B	13.2726672	11.68045987	3.01E-203	13.2726672	12.86804318	0.004110259	ECM_AFFILIATED	1.136313753	1.031444098
SEMA7A	9.143028191	8.367978994	2.34E-27	9.143028191	8.04295	6.16E-11	ECM_AFFILIATED	1.092620834	1.136775461
SERPINA9	2.749595745	1.30724655	1.30E-72	2.749595745	0.999440909	3.83E-07	ECM_REGULATORS	2.103349016	2.751133879
SERPINB7	8.374102837	2.707530387	0	8.374102837	7.466768182	0.009968649	ECM_REGULATORS	3.092893389	1.121516382
SERPINE1	12.7405383	10.57539853	4.26E-112	12.7405383	9.908793182	3.18E-19	ECM_REGULATORS	1.204733634	1.285781029
SERPINE2	11.3924789	10.83624116	2.42E-08	11.3924789	10.39336591	0.000125248	ECM_REGULATORS	1.051331244	1.096129877
SERPINH1	13.20814628	12.63826873	8.31E-21	13.20814628	11.16637955	1.91E-27	ECM_REGULATORS	1.045091425	1.182849483
SPON2	11.01452234	10.30146379	1.29E-12	11.01452234	10.29451136	0.000431021	ECM_GLYCOPROTEINS	1.069219148	1.069941248
SULF1	11.33008014	11.06337253	0.0128019	11.33008014	9.711231818	4.44E-09	ECM_REGULATORS	1.024107261	1.166698556
SULF2	13.04080142	11.77359221	4.14E-73	13.04080142	12.10724773	6.80E-06	ECM_REGULATORS	1.107631485	1.077107012
TGFBI	14.05956844	12.19407224	3.39E-103	14.05956844	11.25018409	1.31E-21	ECM_GLYCOPROTEINS	1.152983857	1.249718967

<b>TGM4</b>	3.408146454	1.955925218	1.67E-44	3.408146454	2.311361364	1.60E-06	ECM_REGULATORS	1.742472781	1.47451909
<b>THBS2</b>	11.90535124	11.14111553	2.13E-14	11.90535124	10.28936136	1.42E-08	ECM_GLYCOPROTEINS	1.068595977	1.157054439
<b>TINAGL1</b>	11.080425	10.43268998	5.39E-14	11.080425	9.852768182	4.88E-08	ECM_GLYCOPROTEINS	1.062087058	1.124600193
<b>TNC</b>	14.30787305	11.74784416	9.39E-139	14.30787305	12.53642273	1.05E-09	ECM_GLYCOPROTEINS	1.217914782	1.141304291
<b>TNFAIP6</b>	7.613089894	6.48153929	8.80E-25	7.613089894	6.1573	2.38E-08	ECM_GLYCOPROTEINS	1.174580536	1.23643316
<b>TSKU</b>	11.90481312	10.73257483	2.85E-53	11.90481312	11.61267727	0.012422396	ECM_GLYCOPROTEINS	1.109222467	1.025156632
<b>WISP1</b>	8.281605142	7.293077917	7.09E-23	8.281605142	5.257627273	1.10E-25	ECM_GLYCOPROTEINS	1.135543215	1.575160184
<b>WISP3</b>	5.01121117	4.005596049	7.55E-29	5.01121117	3.625781818	0.000628306	ECM_GLYCOPROTEINS	1.251052555	1.382104997
<b>WNT10A</b>	8.857202837	5.674497355	1.15E-162	8.857202837	7.922647727	0.001863564	SECRETED_FACTORS	1.560878838	1.117959947
<b>WNT10B</b>	5.586805496	4.127468111	5.80E-69	5.586805496	5.049140909	0.031350554	SECRETED_FACTORS	1.35356721	1.10648635
<b>WNT2</b>	6.210688121	5.484353537	3.34E-08	6.210688121	3.074609091	3.50E-17	SECRETED_FACTORS	1.132437593	2.019992766
<b>WNT2B</b>	8.482610993	7.515716369	4.57E-40	8.482610993	7.712663636	0.002328686	SECRETED_FACTORS	1.128649696	1.099828982
<b>WNT3A</b>	7.17197766	2.46023867	0	7.17197766	6.539538636	0.012500959	SECRETED_FACTORS	2.915155244	1.096710037
<b>WNT7A</b>	7.420093972	3.42596503	1.87E-167	7.420093972	5.332127273	1.67E-07	SECRETED_FACTORS	2.165840546	1.391582307
<b>WNT7B</b>	11.18605248	6.71497389	3.44E-185	11.18605248	9.545902273	3.29E-14	SECRETED_FACTORS	1.665837078	1.171817201
<b>XCL1</b>	5.053192199	4.009227797	4.28E-34	5.053192199	3.732634091	1.13E-07	SECRETED_FACTORS	1.260390393	1.353787185
<b>ZP3</b>	8.373817553	7.723563354	1.13E-23	8.373817553	7.464363636	1.66E-07	ECM_GLYCOPROTEINS	1.084190958	1.121839444
<b>ZP4</b>	1.205608511	0.317821985	2.47E-87	1.205608511	0.260545455	3.44E-05	ECM_GLYCOPROTEINS	3.793345227	4.627248296

**Kidney Chromophobe Cell Carcinoma (KICH)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
ADAM2	4.082815385	0.556721136	5.39E-105	4.082815385	1.313852	3.68E-05	ECM_REGULATORS	7.333681301	3.107515447
ADAMTSL1	10.45967363	6.85884034	1.05E-64	10.45967363	8.640016	0.001427815	ECM_REGULATORS	1.524991559	1.210608132
AMBN	0.737930769	0.363815372	0.000581757	0.737930769	0.225992	0.001785494	ECM_GLYCOPROTEINS	2.028311135	3.265295981
ANGPT1	10.58045165	7.036744816	1.62E-62	10.58045165	9.336088	0.000260589	SECRETED_FACTORS	1.503600304	1.133285338
CCBE1	9.417736264	4.770810695	3.07E-70	9.417736264	7.967592	0.000863116	SECRETED_FACTORS	1.974032689	1.182005337
COCH	7.982751648	6.597409565	1.59E-07	7.982751648	6.509388	0.008609444	ECM_GLYCOPROTEINS	1.209982732	1.22634442
CTSA	13.80329121	12.75228011	1.41E-26	13.80329121	13.024148	7.14E-06	ECM_REGULATORS	1.082417504	1.05982297
CTSD	17.0778033	15.04259047	6.83E-80	17.0778033	15.668436	2.48E-09	ECM_REGULATORS	1.135296699	1.089949456
EDA	9.3144	7.1486447	4.82E-29	9.3144	8.330912	0.000247674	SECRETED_FACTORS	1.302960266	1.118052861
EGLN2	11.86002967	11.46866805	2.22E-08	11.86002967	11.25576	2.19E-06	ECM_REGULATORS	1.034124418	1.053685373
ELSPBP1	1.735616484	0.400242473	2.00E-28	1.735616484	0.644264	0.022405719	ECM_GLYCOPROTEINS	4.336412556	2.693952298
ESM1	9.752767033	7.370375887	1.88E-23	9.752767033	8.584032	0.000567929	PROTEOGLYCANS	1.323238758	1.136152222
F7	5.671462637	3.953165836	9.00E-08	5.671462637	4.243908	0.00187656	ECM_REGULATORS	1.434663475	1.336377376
FBN3	9.929897802	4.399688545	7.07E-53	9.929897802	7.456724	0.000142475	ECM_GLYCOPROTEINS	2.256954714	1.331670289
FGF13	9.153572527	7.191609269	2.74E-16	9.153572527	8.092036	0.000326565	SECRETED_FACTORS	1.272812827	1.131182873
FGF14	8.339159341	5.464790762	3.30E-27	8.339159341	6.307288	0.0009575	SECRETED_FACTORS	1.525979622	1.322146593
GAS6	13.99842637	11.70844753	9.08E-50	13.99842637	13.270436	4.68E-05	ECM_GLYCOPROTEINS	1.195583474	1.05485806
GLDN	8.507069231	6.26903598	1.41E-21	8.507069231	5.056184	5.50E-06	ECM_GLYCOPROTEINS	1.356997991	1.682507842
ITIH1	3.240041758	2.262396326	0.005539042	3.240041758	1.097	4.62E-06	ECM_REGULATORS	1.43212828	2.953547637
LAMA5	12.92159341	12.27180755	2.20E-05	12.92159341	12.517688	0.024712695	ECM_GLYCOPROTEINS	1.052949482	1.032266774
LAMA5	12.92159341	12.27180755	2.20E-05	12.92159341	12.517688	0.024712695	BASEMENT_MEMBRANES	1.052949482	1.032266774
LAMB4	8.088335165	2.812860536	2.10E-200	8.088335165	6.927324	0.023507155	ECM_GLYCOPROTEINS	2.875483893	1.167598796
LAMB4	8.088335165	2.812860536	2.10E-200	8.088335165	6.927324	0.023507155	BASEMENT_MEMBRANES	2.875483893	1.167598796
LGALS3	14.31726374	12.37218833	7.24E-26	14.31726374	12.24306	1.75E-09	ECM_AFFILIATED	1.15721353	1.169418735
LMAN1	13.23705604	12.33211867	8.96E-26	13.23705604	12.767116	0.006457524	ECM_AFFILIATED	1.073380528	1.03680863
MEPE	1.693049451	1.017366121	3.39E-05	1.693049451	0.576976	0.000549147	ECM_GLYCOPROTEINS	1.664149626	2.93434987
MMP15	11.55500769	10.78826829	2.58E-06	11.55500769	10.702056	0.000259217	ECM_REGULATORS	1.071071592	1.079699797
MMP24	11.26327582	6.583126742	8.91E-89	11.26327582	9.643124	3.94E-05	ECM_REGULATORS	1.710931031	1.168011095
MMP26	2.326157143	0.445473057	8.39E-36	2.326157143	0.384288	0.000184698	ECM_REGULATORS	5.221768419	6.053161022
MUC20	14.11225495	8.917898849	2.07E-77	14.11225495	12.263312	0.00083432	ECM_AFFILIATED	1.582464119	1.150770277
MUCL1	3.848931868	2.809124356	0.004956504	3.848931868	1.76462	0.003099099	ECM_AFFILIATED	1.370153607	2.181167542
NTN1	11.17801758	8.63186912	2.03E-25	11.17801758	8.423124	5.74E-10	ECM_GLYCOPROTEINS	1.294970698	1.327063164
NTN1	11.17801758	8.63186912	2.03E-25	11.17801758	8.423124	5.74E-10	BASEMENT_MEMBRANES	1.294970698	1.327063164
NTN3	2.76332967	2.20448523	0.001396752	2.76332967	1.88634	0.014367241	ECM_GLYCOPROTEINS	1.253503372	1.464916012
NTN3	2.76332967	2.20448523	0.001396752	2.76332967	1.88634	0.014367241	BASEMENT_MEMBRANES	1.253503372	1.464916012
OGFOD2	9.536465934	9.056172382	6.57E-12	9.536465934	9.146448	0.000325649	ECM_REGULATORS	1.053034939	1.042641464
PRSS1	3.109471429	2.259461729	0.013080291	3.109471429	0.582472	6.17E-05	ECM_REGULATORS	1.376200087	5.338404985
SDC4	14.98805824	12.74528157	5.19E-34	14.98805824	14.201924	1.60E-05	ECM_AFFILIATED	1.175969174	1.055354066
SEMA3C	11.78956264	10.13217717	2.59E-09	11.78956264	10.273432	0.000409658	ECM_AFFILIATED	1.163576439	1.147577814
SEMA3F	11.99166923	10.55298595	1.50E-13	11.99166923	11.052212	0.00018665	ECM_AFFILIATED	1.136329499	1.085001738
SEMA6B	9.723021978	8.737020281	1.86E-10	9.723021978	8.978488	0.042820798	ECM_AFFILIATED	1.112853314	1.082924205
SERPINI1	10.6349	7.887681936	8.00E-58	10.6349	9.182568	3.81E-06	ECM_REGULATORS	1.348292196	1.158161856



<b>SFTPB</b>	8.603405495	4.253465498	1.17E-14	8.603405495	4.432088	4.40E-07	ECM_AFFILIATED	2.022681387	1.941163058
<b>SLIT2</b>	11.10335934	8.224947487	2.04E-35	11.10335934	8.929716	2.30E-05	ECM_GLYCOPROTEINS	1.349961122	1.24341685
<b>SMOC1</b>	9.778545055	7.171748427	3.49E-13	9.778545055	7.537304	0.000893658	ECM_GLYCOPROTEINS	1.363481326	1.297353146
<b>SPARCL1</b>	14.29788791	12.32108392	6.97E-17	14.29788791	12.616812	0.000179104	ECM_GLYCOPROTEINS	1.160440754	1.133240942
<b>ST14</b>	13.92157582	11.7281401	2.62E-15	13.92157582	12.955956	0.000117234	ECM_REGULATORS	1.187023322	1.074530959
<b>WFIKKN1</b>	6.769836264	4.942840678	4.07E-27	6.769836264	6.055988	0.019976603	SECRETED_FACTORS	1.369624616	1.117874782
<b>VWF</b>	12.76904176	12.07067299	2.41E-06	12.76904176	11.383168	4.30E-05	ECM_GLYCOPROTEINS	1.057856655	1.121747633

**Kidney Clear Cell Carcinoma (KIRC)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
A2M	15.70100149	14.02514141	5.57E-110	15.70100149	15.48531111	0.035654791	ECM_REGULATORS	1.11948971	1.013928708
ACAN	9.72783466	6.316032264	1.80E-263	9.72783466	7.435811111	7.22E-21	PROTEOGLYCANS	1.540181281	1.308241228
ADAM18	3.200157877	0.293273311	0	3.200157877	0.136519444	1.52E-20	ECM_REGULATORS	10.91186194	23.44104087
ADAM28	9.036876285	7.966519172	1.62E-38	9.036876285	7.827138889	1.86E-16	ECM_REGULATORS	1.134356937	1.154556782
ADAM9	12.57898557	11.75748795	1.65E-51	12.57898557	12.29076806	0.00220817	ECM_REGULATORS	1.069870165	1.023449919
ADAMTS10	8.550409453	7.606247466	1.91E-49	8.550409453	6.801998611	7.70E-22	ECM_REGULATORS	1.124129801	1.257043693
ADAMTS18	5.619278441	3.755358034	1.45E-82	5.619278441	4.660552778	5.63E-07	ECM_REGULATORS	1.496336272	1.205710719
ADAMTS4	10.82078358	9.142641237	1.73E-106	10.82078358	8.412451389	9.53E-26	ECM_REGULATORS	1.183551153	1.286281856
ADAMTS5	10.12485904	7.573374989	6.80E-229	10.12485904	9.530538889	4.03E-06	ECM_REGULATORS	1.336901851	1.062359553
ADAMTS7	8.48764461	8.054007021	2.49E-11	8.48764461	6.316693056	3.87E-40	ECM_REGULATORS	1.053841223	1.343684826
ADAMTSL4	9.131905307	8.831679561	7.65E-05	9.131905307	7.438222222	3.23E-24	ECM_REGULATORS	1.033994185	1.227699984
AGRN	14.00731376	13.21223926	1.39E-48	14.00731376	13.79238889	0.02006401	BASEMENT_MEMBRANES	1.06017712	1.015582861
AGRN	14.00731376	13.21223926	1.39E-48	14.00731376	13.79238889	0.02006401	ECM_GLYCOPROTEINS	1.06017712	1.015582861
AGT	11.19882537	8.26131118	2.90E-86	11.19882537	9.989651389	1.11E-07	ECM_REGULATORS	1.355574815	1.121042661
ANGPT2	11.42097861	8.447859692	0	11.42097861	8.524740278	3.74E-39	SECRETED_FACTORS	1.351937535	1.339745052
ANGPT4	4.893195688	2.985718317	6.32E-122	4.893195688	4.170411111	9.07E-05	SECRETED_FACTORS	1.638867156	1.173312548
ANGPTL2	11.33397944	10.42380202	6.24E-35	11.33397944	10.09700556	1.85E-16	SECRETED_FACTORS	1.087317221	1.122508983
ANGPTL4	13.67519701	9.073770735	0	13.67519701	8.673445833	9.46E-49	SECRETED_FACTORS	1.50711291	1.576674055
ANXA13	8.106730182	3.573841375	2.63E-254	8.106730182	6.476006944	2.28E-06	ECM_AFFILIATED	2.268351987	1.251809989
ANXA4	14.43841128	11.74772896	0	14.43841128	12.88178333	1.29E-35	ECM_AFFILIATED	1.229038508	1.120839476
ANXA5	13.85351526	13.35401873	4.38E-30	13.85351526	13.39930139	3.69E-16	ECM_AFFILIATED	1.037404211	1.033898325
ANXA6	12.77003367	12.23624529	1.45E-24	12.77003367	12.48158194	6.93E-05	ECM_AFFILIATED	1.043623543	1.023110189
BDNF	6.437959701	5.149569943	1.30E-48	6.437959701	5.1248875	1.76E-09	SECRETED_FACTORS	1.250193661	1.256214834
BGN	14.6958325	13.16003454	1.95E-75	14.6958325	13.89452361	6.82E-07	PROTEOGLYCANS	1.116701666	1.057670843
BMP2	9.390164179	7.930017789	8.09E-47	9.390164179	8.684381944	1.13E-07	SECRETED_FACTORS	1.184129018	1.081270289
C1QA	12.37058905	11.42867589	1.21E-37	12.37058905	9.954880556	1.74E-36	ECM_AFFILIATED	1.082416649	1.242665744
C1QB	12.47623002	11.59366766	5.00E-30	12.47623002	9.824451389	1.57E-38	ECM_AFFILIATED	1.076124517	1.269916204
C1QC	12.22649685	11.43836338	5.25E-26	12.22649685	9.682797222	1.92E-37	ECM_AFFILIATED	1.068902643	1.262702974
C1QL1	7.913460697	5.832533995	1.32E-59	7.913460697	4.984013889	2.08E-15	ECM_AFFILIATED	1.356779181	1.587768588
C1QL4	5.976339801	3.416379244	9.45E-108	5.976339801	4.105866667	1.95E-08	ECM_AFFILIATED	1.749319784	1.4555611
C1QTNF1	10.57609784	9.796196717	1.38E-27	10.57609784	9.7274625	1.50E-07	ECM_AFFILIATED	1.079612645	1.087241184
C1QTNF5	10.41621177	9.229578758	2.06E-67	10.41621177	9.720984722	2.88E-09	ECM_AFFILIATED	1.128568491	1.071518171
CBLN3	7.894085738	6.674096505	4.25E-123	7.894085738	6.601611111	6.88E-22	SECRETED_FACTORS	1.182794665	1.195781697
CBLN4	6.144408955	3.16523712	2.52E-171	6.144408955	4.858958333	1.14E-07	SECRETED_FACTORS	1.941216004	1.264552716
CCL15	6.716117579	2.358480184	1.45E-219	6.716117579	5.998088889	0.009232839	SECRETED_FACTORS	2.847646389	1.119709578
CCL20	7.643207463	5.937788081	1.91E-32	7.643207463	5.1621125	9.42E-15	SECRETED_FACTORS	1.287214592	1.480635585
CCL28	9.394191045	7.846971484	3.40E-55	9.394191045	8.237198611	9.50E-09	SECRETED_FACTORS	1.197174103	1.140459456
CCL3	7.775709121	7.442840382	3.78E-06	7.775709121	6.108431944	2.47E-16	SECRETED_FACTORS	1.044723348	1.272946837
CCL3L3	5.880202819	5.502708425	2.98E-06	5.880202819	4.569527778	9.90E-08	SECRETED_FACTORS	1.068601562	1.286829429
CCL4	8.653224046	7.664904751	7.20E-44	8.653224046	6.309963889	3.95E-31	SECRETED_FACTORS	1.128940845	1.371358727
CCL4L2	7.182091874	6.474404508	4.96E-18	7.182091874	5.100302778	1.58E-16	SECRETED_FACTORS	1.109305399	1.408169708
CCL5	10.46199353	9.337918444	2.27E-39	10.46199353	7.666788889	7.64E-36	SECRETED_FACTORS	1.12037748	1.364586098

CD109	11.34672322	9.706693571	1.18E-86	11.34672322	10.44636389	4.11E-10	ECM_REGULATORS	1.16895863	1.086188777
CD209	7.545014096	6.79707709	6.37E-19	7.545014096	6.678206944	1.38E-06	ECM_AFFILIATED	1.110038035	1.12979639
CDCP2	1.508277612	0.839142293	4.33E-68	1.508277612	1.146961111	0.002896403	ECM_GLYCOPROTEINS	1.797403878	1.315020708
CHRD	8.579543947	7.613930184	1.11E-30	8.579543947	8.234683333	0.02320428	SECRETED_FACTORS	1.126821988	1.041879038
CLEC10A	7.000780763	6.170362648	1.44E-20	7.000780763	6.313555556	0.000240295	ECM_AFFILIATED	1.134581736	1.108849158
CLEC12A	6.440212438	5.032945365	7.25E-55	6.440212438	3.9739375	6.38E-32	ECM_AFFILIATED	1.279611037	1.620612412
CLEC12B	2.187917081	1.694381166	1.77E-12	2.187917081	0.521280556	9.28E-19	ECM_AFFILIATED	1.291277976	4.197196803
CLEC14A	11.20403881	8.897483098	0	11.20403881	10.16789028	2.92E-13	ECM_AFFILIATED	1.259236874	1.101903984
CLEC17A	3.092544942	2.763759048	9.46E-05	3.092544942	2.033172222	2.79E-07	ECM_AFFILIATED	1.118963299	1.521044262
CLEC18A	10.44670912	4.513542726	0	10.44670912	8.084451389	1.02E-14	ECM_AFFILIATED	2.314525364	1.292197654
CLEC18B	10.47349022	3.95675984	0	10.47349022	9.261241667	2.99E-06	ECM_AFFILIATED	2.646986585	1.130894819
CLEC18C	9.77235539	2.916698976	0	9.77235539	7.694377778	5.39E-10	ECM_AFFILIATED	3.350484733	1.270064412
CLEC1A	8.086524212	6.162316353	1.90E-226	8.086524212	7.058401389	6.94E-16	ECM_AFFILIATED	1.312253988	1.145659444
CLEC1B	1.946277944	1.415200739	2.52E-13	1.946277944	0.589652778	7.51E-21	ECM_AFFILIATED	1.375266342	3.300718689
CLEC2B	8.837280597	8.242477576	3.99E-19	8.837280597	6.944370833	6.47E-36	ECM_AFFILIATED	1.072163135	1.272581895
CLEC2D	8.659300829	8.181053125	1.06E-18	8.659300829	6.625101389	2.96E-33	ECM_AFFILIATED	1.058457963	1.307044273
CLEC4A	6.794940464	6.12701686	1.64E-36	6.794940464	5.136445833	1.99E-32	ECM_AFFILIATED	1.109012856	1.322887593
CLEC4D	2.904792371	2.252958499	2.53E-17	2.904792371	2.253077778	2.63E-05	ECM_AFFILIATED	1.289323515	1.289255258
CLEC4E	6.874488723	5.286163302	7.69E-87	6.874488723	5.905483333	2.01E-09	ECM_AFFILIATED	1.300468474	1.164085704
CLEC4F	3.911364179	3.249367684	4.22E-17	3.911364179	2.705805556	2.02E-09	ECM_AFFILIATED	1.203730867	1.44554518
CLEC5A	6.949000332	6.184372762	1.07E-16	6.949000332	4.924469444	1.81E-24	ECM_AFFILIATED	1.123638661	1.41111655
CLEC7A	8.473397015	7.752143338	2.13E-22	8.473397015	6.350652778	7.90E-32	ECM_AFFILIATED	1.09303926	1.33425607
CLEC9A	5.180434494	3.391493402	4.33E-102	5.180434494	4.116405556	1.84E-08	ECM_AFFILIATED	1.527478866	1.258484963
COL15A1	11.74691277	10.45141803	1.63E-44	11.74691277	10.40918194	2.00E-15	COLLAGENS	1.123953968	1.128514501
COL15A1	11.74691277	10.45141803	1.63E-44	11.74691277	10.40918194	2.00E-15	BASEMENT_MEMBRANES	1.123953968	1.128514501
COL21A1	8.031513433	6.099536518	9.35E-99	8.031513433	6.363894444	1.04E-13	COLLAGENS	1.316741593	1.262043785
COL23A1	11.58185871	6.192223163	0	11.58185871	6.686234722	2.48E-45	COLLAGENS	1.870387808	1.732194454
COL27A1	10.85414328	9.480106408	5.67E-78	10.85414328	9.429201389	8.62E-17	COLLAGENS	1.144938972	1.151120104
COL4A1	15.16350597	13.08107084	1.00E-151	15.16350597	13.50309444	3.25E-29	COLLAGENS	1.159194546	1.12296526
COL4A1	15.16350597	13.08107084	1.00E-151	15.16350597	13.50309444	3.25E-29	BASEMENT_MEMBRANES	1.159194546	1.12296526
COL4A2	15.0285131	13.3373902	1.26E-106	15.0285131	13.69891944	9.70E-25	COLLAGENS	1.126795638	1.097058287
COL4A2	15.0285131	13.3373902	1.26E-106	15.0285131	13.69891944	9.70E-25	BASEMENT_MEMBRANES	1.126795638	1.097058287
COL5A3	9.718981426	9.554075074	0.025700093	9.718981426	6.625777778	2.61E-47	COLLAGENS	1.017260316	1.466843856
COL8A1	11.37484776	9.731375528	1.20E-48	11.37484776	9.448852778	7.39E-24	COLLAGENS	1.168883857	1.203833738
CRLF3	9.199522056	9.065529698	0.000262257	9.199522056	8.397855556	4.87E-25	SECRETED_FACTORS	1.014780422	1.095460858
CSF1	11.19209022	10.56072784	4.84E-32	11.19209022	10.33311944	1.95E-16	SECRETED_FACTORS	1.059783983	1.083127924
CSPG4	11.92532305	10.2142164	1.41E-94	11.92532305	9.533372222	5.18E-36	ECM_AFFILIATED	1.167522068	1.25090291
CST7	8.298978939	6.979783879	5.99E-57	8.298978939	5.5285875	2.41E-35	ECM_REGULATORS	1.189002279	1.501102938
CTSD	15.87999917	15.04259047	7.74E-87	15.87999917	15.61078472	0.005256144	ECM_REGULATORS	1.055669182	1.017245414
CTSL	12.90206053	11.76380357	8.50E-108	12.90206053	12.70466528	0.002378692	ECM_REGULATORS	1.096759263	1.015537226
CTSS	12.03344925	11.4009428	2.12E-22	12.03344925	10.33526667	4.05E-29	ECM_REGULATORS	1.055478434	1.164309509
CTSW	8.191033831	6.880932485	1.19E-52	8.191033831	5.523063889	4.42E-34	ECM_REGULATORS	1.190395902	1.483059765
CTSZ	13.28780912	12.78600574	2.33E-27	13.28780912	12.23794306	1.24E-24	ECM_REGULATORS	1.039246297	1.085787788
CX3CL1	12.84839668	10.45128073	1.10E-169	12.84839668	12.05495	2.20E-13	SECRETED_FACTORS	1.229360976	1.06581916
CXCL10	9.247189552	8.42873144	3.74E-13	9.247189552	6.565777778	1.25E-28	SECRETED_FACTORS	1.097103356	1.4083921
CXCL11	7.082460199	6.55354109	1.95E-06	7.082460199	4.349088889	4.15E-28	SECRETED_FACTORS	1.080707377	1.628492859

CXCL2	7.289367993	7.062526151	0.035299681	7.289367993	6.398533333	6.57E-05	SECRETED_FACTORS	1.03211908	1.139224821
CXCL9	10.32818624	8.957809945	3.15E-28	10.32818624	7.325129167	6.46E-31	SECRETED_FACTORS	1.152981175	1.409966432
DDX26B	8.471691874	8.186677101	1.43E-07	8.471691874	7.020068056	1.46E-26	ECM_GLYCOPROTEINS	1.034814464	1.206782015
DMP1	1.851439303	1.433549018	2.10E-10	1.851439303	0.44505	1.48E-13	ECM_GLYCOPROTEINS	1.291507496	4.160070337
EBI3	7.037408292	5.996347445	1.73E-55	7.037408292	4.940815278	4.92E-34	SECRETED_FACTORS	1.173615831	1.42434151
EDIL3	11.62819337	9.137124229	8.40E-156	11.62819337	10.78246111	7.62E-07	ECM_GLYCOPROTEINS	1.272631637	1.07843592
EFEMP2	11.76636517	10.33536263	1.48E-118	11.76636517	10.96328056	2.74E-15	ECM_GLYCOPROTEINS	1.138456927	1.073252218
EGFL7	10.74446617	9.72576932	4.31E-74	10.74446617	9.981395833	1.11E-07	SECRETED_FACTORS	1.104742033	1.076449261
EGFLAM	8.492099668	7.633638376	8.41E-32	8.492099668	7.380697222	2.12E-12	ECM_GLYCOPROTEINS	1.112457684	1.150582311
EGLN1	12.24558972	11.13169949	2.26E-283	12.24558972	11.936975	2.88E-07	ECM_REGULATORS	1.100064705	1.025853679
EGLN3	13.47001874	9.356348406	0	13.47001874	9.729830556	2.75E-46	ECM_REGULATORS	1.43966622	1.384404247
EPO	4.640887894	1.997428822	3.08E-215	4.640887894	2.528947222	5.32E-07	SECRETED_FACTORS	2.323430924	1.835106661
ESM1	12.42546086	7.370375887	0	12.42546086	9.05735	5.60E-45	PROTEOGLYCANS	1.685865287	1.371864934
F2	3.856571144	2.012606461	2.16E-36	3.856571144	1.697127778	2.81E-08	ECM_REGULATORS	1.916207276	2.272410596
FASLG	5.689646269	4.107513714	1.06E-80	5.689646269	2.872016667	1.03E-33	SECRETED_FACTORS	1.385180103	1.98106311
FBLN7	7.526677944	7.268946263	0.000416672	7.526677944	5.9656875	1.97E-16	ECM_GLYCOPROTEINS	1.03545654	1.26166145
FBN1	11.54930315	11.18550923	4.21E-06	11.54930315	11.0740375	0.000417453	ECM_GLYCOPROTEINS	1.03252368	1.042917107
FCN1	8.221015257	6.275952259	2.65E-98	8.221015257	7.165208333	1.11E-10	ECM_AFFILIATED	1.309923167	1.147351881
FCN3	9.0575733	5.495804307	0	9.0575733	7.607698611	4.80E-11	ECM_AFFILIATED	1.648088759	1.190579933
FGF11	9.851438806	7.539408404	9.17E-139	9.851438806	7.818938889	2.04E-22	SECRETED_FACTORS	1.306659393	1.259945748
FGF14	6.73802272	5.464790762	1.24E-34	6.73802272	6.354980556	0.020849244	SECRETED_FACTORS	1.232988236	1.060274325
FGF20	2.359872968	1.855644531	4.17E-10	2.359872968	1.197641667	1.32E-12	SECRETED_FACTORS	1.271726847	1.970433256
FGG	5.71429005	3.216749229	1.22E-34	5.71429005	3.605713889	5.53E-05	ECM_GLYCOPROTEINS	1.776417632	1.584787431
FN1	15.47287214	15.22713282	0.012573832	15.47287214	13.98961528	3.05E-18	ECM_GLYCOPROTEINS	1.016138253	1.106025565
GPC6	10.87708308	8.242906746	8.06E-180	10.87708308	10.22113333	3.40E-05	ECM_AFFILIATED	1.319568863	1.064175834
HAPLN1	8.064862521	5.195900929	2.95E-119	8.064862521	4.250297222	2.42E-32	PROTEOGLYCANS	1.55215864	1.897482011
HAPLN2	3.421747595	2.633874831	7.36E-15	3.421747595	2.686426389	1.16E-05	PROTEOGLYCANS	1.299130678	1.273717236
HAPLN4	3.954277446	3.642159027	0.002661679	3.954277446	1.940705556	1.63E-15	PROTEOGLYCANS	1.085695989	2.037546311
HMCN1	9.900076783	8.678227302	5.03E-39	9.900076783	8.940238889	3.50E-10	BASEMENT_MEMBRANES	1.140794824	1.107361549
HMCN1	9.900076783	8.678227302	5.03E-39	9.900076783	8.940238889	3.50E-10	ECM_GLYCOPROTEINS	1.140794824	1.107361549
HSPG2	14.47044511	13.32827609	5.85E-76	14.47044511	13.65412222	1.41E-09	BASEMENT_MEMBRANES	1.08569518	1.059785819
HSPG2	14.47044511	13.32827609	5.85E-76	14.47044511	13.65412222	1.41E-09	PROTEOGLYCANS	1.08569518	1.059785819
HTRA1	13.02821211	11.75354396	3.26E-59	13.02821211	12.34995139	4.74E-09	ECM_REGULATORS	1.108449685	1.054920112
HTRA4	4.143048425	3.286020429	3.91E-27	4.143048425	1.068151389	5.69E-34	ECM_REGULATORS	1.260810307	3.878709018
IGFBP1	5.747076285	2.801140298	2.30E-95	5.747076285	4.9471875	0.033226399	ECM_GLYCOPROTEINS	2.051691695	1.161685561
IGFBP3	15.67271443	12.20539058	0	15.67271443	12.62461111	8.80E-41	ECM_GLYCOPROTEINS	1.284081351	1.241441363
IGFBP4	14.95431907	13.33754914	1.13E-106	14.95431907	14.21862361	6.57E-12	ECM_GLYCOPROTEINS	1.121219417	1.051741679
LAMA4	12.18136949	10.8735146	5.38E-74	12.18136949	9.671184722	8.06E-46	ECM_GLYCOPROTEINS	1.120278947	1.259552975
LAMA4	12.18136949	10.8735146	5.38E-74	12.18136949	9.671184722	8.06E-46	BASEMENT_MEMBRANES	1.120278947	1.259552975
LAMA5	12.72284179	12.27180755	6.43E-14	12.72284179	12.16372222	1.80E-07	ECM_GLYCOPROTEINS	1.036753693	1.045966157
LAMA5	12.72284179	12.27180755	6.43E-14	12.72284179	12.16372222	1.80E-07	BASEMENT_MEMBRANES	1.036753693	1.045966157
LAMB2	13.70115771	12.62592665	1.29E-93	13.70115771	13.4987125	0.00943834	ECM_GLYCOPROTEINS	1.085160566	1.014997372
LAMB2	13.70115771	12.62592665	1.29E-93	13.70115771	13.4987125	0.00943834	BASEMENT_MEMBRANES	1.085160566	1.014997372
LAMC1	13.51508557	12.74272957	2.79E-43	13.51508557	12.96420139	9.38E-11	BASEMENT_MEMBRANES	1.060611504	1.04249272
LAMC1	13.51508557	12.74272957	2.79E-43	13.51508557	12.96420139	9.38E-11	ECM_GLYCOPROTEINS	1.060611504	1.04249272
LGALS12	5.359220896	2.965744046	4.38E-133	5.359220896	2.600404167	2.07E-17	ECM_AFFILIATED	1.807040936	2.060918439

LGALS2	9.935327695	4.971912606	0	9.935327695	8.854563889	0.000145832	ECM_AFFILIATED	1.998290896	1.12205726
LGALS3	12.53880862	12.37218833	0.021097249	12.53880862	11.71294167	2.81E-10	ECM_AFFILIATED	1.013467326	1.070508928
LGALS4	6.815552239	5.61655076	1.03E-11	6.815552239	5.825394444	0.007070449	ECM_AFFILIATED	1.213476479	1.169972661
LGALS8	11.68758109	11.27448579	6.65E-28	11.68758109	11.47609028	1.00E-05	ECM_AFFILIATED	1.036639836	1.018428821
LGI4	9.742774793	6.763202956	8.69E-286	9.742774793	6.834722222	3.86E-22	ECM_GLYCOPROTEINS	1.440556325	1.425482189
LOX	12.20320498	9.413232496	1.37E-231	12.20320498	8.994881944	3.08E-29	ECM_REGULATORS	1.296388353	1.356683173
LOXL2	11.38397828	10.14151548	3.28E-65	11.38397828	8.782736111	1.02E-36	ECM_REGULATORS	1.122512538	1.296176742
MASP1	10.01143997	6.013994785	4.15E-169	10.01143997	8.433825	6.64E-12	ECM_REGULATORS	1.664690497	1.187058063
MATN1	2.705213101	2.397074958	3.79E-07	2.705213101	1.476141667	5.54E-16	ECM_GLYCOPROTEINS	1.128547563	1.832624309
MMRN1	8.317568325	6.661839073	1.22E-69	8.317568325	7.528338889	0.000756579	ECM_GLYCOPROTEINS	1.248539365	1.104834472
MUC12	5.264200663	4.96823485	0.020242154	5.264200663	2.091136111	3.78E-28	ECM_AFFILIATED	1.059571623	2.517387862
MUC3A	8.593650415	6.251572804	5.14E-57	8.593650415	5.777555556	1.94E-28	ECM_AFFILIATED	1.374638141	1.48741978
NID1	12.79713947	11.34216783	2.77E-115	12.79713947	11.5376125	1.25E-21	BASEMENT_MEMBRANES	1.128279854	1.109167037
NID1	12.79713947	11.34216783	2.77E-115	12.79713947	11.5376125	1.25E-21	ECM_GLYCOPROTEINS	1.128279854	1.109167037
NID2	10.62164826	9.157650623	1.42E-73	10.62164826	9.872540278	2.13E-07	BASEMENT_MEMBRANES	1.159866072	1.075877936
NID2	10.62164826	9.157650623	1.42E-73	10.62164826	9.872540278	2.13E-07	ECM_GLYCOPROTEINS	1.159866072	1.075877936
OIT3	5.799255556	3.156478009	3.52E-163	5.799255556	4.537640278	2.68E-07	ECM_GLYCOPROTEINS	1.837255175	1.278033339
OTOG	2.711248756	1.158646569	8.74E-89	2.711248756	1.556794444	5.54E-10	ECM_GLYCOPROTEINS	2.340013624	1.741558602
P4HA1	12.23105854	11.09278501	3.21E-168	12.23105854	10.76867639	3.56E-38	ECM_REGULATORS	1.102613864	1.135799619
P4HA2	11.81924876	10.63943168	8.32E-85	11.81924876	10.53157778	2.04E-24	ECM_REGULATORS	1.110890986	1.122267623
P4HA3	7.0343199	6.413283868	9.44E-15	7.0343199	4.990619444	2.70E-23	ECM_REGULATORS	1.096835887	1.409508374
PAMR1	8.908585738	7.58100814	2.36E-54	8.908585738	8.296740278	9.82E-06	ECM_REGULATORS	1.175118873	1.073745283
PCSK5	9.35573665	8.304611201	2.44E-48	9.35573665	8.997338889	0.005244554	ECM_REGULATORS	1.126571302	1.039833751
PCSK6	11.4643592	9.095109544	1.33E-139	11.4643592	8.997893056	7.37E-24	ECM_REGULATORS	1.2604971	1.274115966
PLOD1	13.10309718	12.50637365	4.45E-49	13.10309718	11.99509861	1.14E-23	ECM_REGULATORS	1.047713554	1.092370943
PLOD2	13.07497297	11.00814783	1.16E-166	13.07497297	11.69973472	3.32E-22	ECM_REGULATORS	1.187754123	1.117544396
PLOD3	11.87019652	11.66421617	3.72E-06	11.87019652	10.66856667	7.19E-38	ECM_REGULATORS	1.017659167	1.112632736
PLXDC1	10.26218242	8.791182675	1.08E-141	10.26218242	7.847458333	1.59E-39	ECM_AFFILIATED	1.167326718	1.307707793
PLXDC2	11.99356633	10.79286649	3.54E-71	11.99356633	11.61820278	0.00090517	ECM_AFFILIATED	1.111249393	1.032308229
PLXNA2	11.08723765	10.54093009	5.96E-24	11.08723765	10.37407083	2.85E-11	ECM_AFFILIATED	1.051827263	1.068745127
PLXND1	12.88422272	11.84135469	2.83E-108	12.88422272	11.50862083	4.99E-30	ECM_AFFILIATED	1.088069994	1.119527953
PXDN	11.85385108	11.2128316	4.57E-17	11.85385108	10.31253056	1.65E-24	ECM_GLYCOPROTEINS	1.057168386	1.149460941
PZP	3.459644279	2.539882844	6.35E-32	3.459644279	2.898555556	2.83E-05	ECM_REGULATORS	1.362127504	1.193575287
REG1A	7.856792206	2.469637468	2.10E-205	7.856792206	5.193655556	7.61E-09	ECM_AFFILIATED	3.181354473	1.512767283
REG1B	2.53455937	0.831605184	3.28E-60	2.53455937	0.928422222	2.80E-07	ECM_AFFILIATED	3.047791692	2.729964136
SEMA3F	11.76249718	10.55298595	2.03E-56	11.76249718	10.77075694	2.59E-19	ECM_AFFILIATED	1.114613176	1.092077116
SEMA5B	11.68887048	6.513178062	0	11.68887048	8.360398611	6.67E-41	ECM_AFFILIATED	1.794649305	1.398123585
SEMA6A	11.54077181	9.413355469	3.02E-146	11.54077181	9.825670833	3.58E-25	ECM_AFFILIATED	1.225999788	1.174553066
SEMA6B	9.86630995	8.737020281	7.56E-76	9.86630995	8.392631944	1.82E-24	ECM_AFFILIATED	1.129253411	1.175591878
SEMA6C	8.782595854	8.339472382	6.83E-16	8.782595854	8.354565278	2.86E-05	ECM_AFFILIATED	1.053135672	1.051233136
SERPINA1	14.95360498	11.61734368	1.15E-134	14.95360498	13.89255833	3.90E-07	ECM_REGULATORS	1.287179358	1.07637518
SERPINB1	11.68110746	11.54642448	0.032431084	11.68110746	11.03191667	3.74E-26	ECM_REGULATORS	1.011664475	1.058846601
SERPINB6	12.39492355	11.84919963	4.50E-45	12.39492355	11.90864444	6.72E-22	ECM_REGULATORS	1.046055762	1.040834127
SERPINB9	10.02796799	9.250079476	1.57E-44	10.02796799	8.781790278	5.15E-28	ECM_REGULATORS	1.084095333	1.141904746
SERPINE1	12.42297562	10.71683257	2.60E-75	12.42297562	10.64312083	6.34E-14	ECM_REGULATORS	1.159202175	1.167230535
SERPINE2	11.74547363	10.61310534	3.43E-32	11.74547363	10.97230556	4.54E-06	ECM_REGULATORS	1.106695284	1.070465416



<b>SERPINE3</b>	1.463690713	1.085625179	3.49E-15	1.463690713	0.815306944	6.06E-07	ECM_REGULATORS	1.348246836	1.795263395
<b>SERPINF2</b>	12.10498557	7.33069281	0	12.10498557	11.15714306	4.23E-05	ECM_REGULATORS	1.651274427	1.084953873
<b>SERPING1</b>	14.13853847	12.81372791	4.80E-70	14.13853847	13.73928333	0.004964138	ECM_REGULATORS	1.10338994	1.029059386
<b>SERPINH1</b>	12.85610647	12.70051871	0.00815546	12.85610647	11.50330972	1.10E-32	ECM_REGULATORS	1.012250504	1.117600654
<b>SERPINI1</b>	9.692102819	7.887681936	9.88E-156	9.692102819	9.254679167	0.000312622	ECM_REGULATORS	1.228764407	1.047265134
<b>SNED1</b>	9.818390713	9.178406915	9.54E-23	9.818390713	9.476165278	0.002546701	ECM_GLYCOPROTEINS	1.069727111	1.036114338
<b>SPARC</b>	16.23162471	15.12703417	2.49E-59	16.23162471	14.50161667	1.67E-36	ECM_GLYCOPROTEINS	1.073020959	1.119297599
<b>SPARCL1</b>	13.80186833	12.32108392	4.23E-57	13.80186833	12.48785972	2.98E-16	ECM_GLYCOPROTEINS	1.120182966	1.105222883
<b>SPON2</b>	10.63698773	10.24074302	2.76E-05	10.63698773	9.052461111	3.47E-14	ECM_GLYCOPROTEINS	1.038692965	1.175038213
<b>SRGN</b>	12.06489254	10.89604364	8.04E-79	12.06489254	11.43566111	4.67E-09	PROTEOGLYCANS	1.10727278	1.055023616
<b>SULF1</b>	11.57327761	11.0555136	5.13E-07	11.57327761	10.50840694	6.92E-10	ECM_REGULATORS	1.046833104	1.101335119
<b>SULF2</b>	12.26121012	11.74720074	1.64E-13	12.26121012	11.48369306	1.91E-08	ECM_REGULATORS	1.043755903	1.067706186
<b>TGFBI</b>	13.9308466	12.22635787	1.67E-91	13.9308466	11.42486806	2.10E-17	ECM_GLYCOPROTEINS	1.139410997	1.2193442
<b>TGM2</b>	13.77264046	11.97478609	1.83E-117	13.77264046	12.59867222	6.94E-15	ECM_REGULATORS	1.150136659	1.093181902
<b>TIMP1</b>	13.36011841	13.0633727	5.15E-05	13.36011841	11.4754875	1.42E-26	ECM_REGULATORS	1.022715857	1.16423101
<b>TLL1</b>	8.683251575	5.422040308	2.28E-277	8.683251575	7.693520833	2.50E-08	ECM_REGULATORS	1.601473077	1.128644708
<b>TNFAIP6</b>	9.24041675	6.325536518	7.85E-180	9.24041675	3.766816667	1.36E-47	ECM_GLYCOPROTEINS	1.460811541	2.453110296
<b>TNN</b>	5.074218408	4.777913081	0.001873261	5.074218408	4.333523611	0.000530431	ECM_GLYCOPROTEINS	1.062015638	1.170922063
<b>VCAN</b>	12.8368869	11.58204903	8.77E-38	12.8368869	11.09440417	2.74E-15	PROTEOGLYCANS	1.10834334	1.157059605
<b>WFIKKN1</b>	6.173001824	4.942840678	3.86E-73	6.173001824	5.469561111	0.000335116	SECRETED_FACTORS	1.248877362	1.128610084
<b>WNT2B</b>	7.899565174	7.570306894	3.12E-06	7.899565174	7.193263889	0.000178062	SECRETED_FACTORS	1.043493386	1.098189264
<b>VWA1</b>	12.19261376	11.52317063	2.82E-29	12.19261376	11.13334583	3.24E-16	ECM_GLYCOPROTEINS	1.058095394	1.095143719
<b>VWCE</b>	7.715001493	5.70891516	1.59E-112	7.715001493	5.624819444	2.37E-16	ECM_GLYCOPROTEINS	1.351395366	1.371599848
<b>VWF</b>	14.6267602	12.07067299	0	14.6267602	11.87630417	3.86E-37	ECM_GLYCOPROTEINS	1.211760124	1.231591916
<b>XCL1</b>	4.892048425	4.142711434	8.00E-19	4.892048425	3.118611111	6.85E-19	SECRETED_FACTORS	1.180880808	1.568662539
<b>XCL2</b>	4.622433167	3.443631978	1.40E-51	4.622433167	2.592145833	1.63E-23	SECRETED_FACTORS	1.342313347	1.783245799
<b>ZP1</b>	2.464280929	2.149809407	2.13E-05	2.464280929	0.528861111	3.20E-13	ECM_GLYCOPROTEINS	1.146278792	4.659599424

**Kidney Papillary Cell Carcinoma (KIRP)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
ADAM10	12.59589221	12.00752005	3.53E-45	12.59589221	12.0682375	6.47E-05	ECM_REGULATORS	1.049000307	1.043722599
ADAM18	0.631162928	0.293273311	5.56E-12	0.631162928	0	0.001473833	ECM_REGULATORS	2.152132175	Inf
ADAM28	8.671511526	7.966519172	3.42E-10	8.671511526	7.778990625	0.000192492	ECM_REGULATORS	1.088494403	1.114734796
ADAMTS10	7.990943614	7.606247466	7.36E-06	7.990943614	7.45928125	0.031531271	ECM_REGULATORS	1.050576339	1.071275281
ADAMTS13	8.100636449	7.026120957	1.58E-45	8.100636449	7.452178125	0.002299593	ECM_REGULATORS	1.152931539	1.087015945
ADAMTS3	7.629615576	5.729295809	1.55E-70	7.629615576	6.7797625	0.000255731	ECM_REGULATORS	1.331684701	1.125351452
ADAMTS9	11.19361215	8.839440287	4.49E-119	11.19361215	10.38225	9.90E-07	ECM_REGULATORS	1.266325897	1.078148971
ANXA1	12.94412586	12.60711304	0.005055428	12.94412586	11.0567875	3.89E-15	ECM_AFFILIATED	1.026731958	1.170695001
ANXA13	8.637501558	3.573841375	1.41E-175	8.637501558	6.5670375	0.000211675	ECM_AFFILIATED	2.416867637	1.31528129
ANXA4	13.65363863	11.74772896	2.72E-158	13.65363863	12.71661563	1.87E-10	ECM_AFFILIATED	1.162236435	1.073684936
BDNF	5.430978816	5.149569943	0.018053609	5.430978816	4.694178125	0.043626365	SECRETED_FACTORS	1.054647063	1.156960531
BMP1	10.8820514	10.65086269	0.00019105	10.8820514	9.26795	8.69E-16	ECM_REGULATORS	1.021706102	1.174159485
C1QTNF3	9.394130218	7.836027745	6.59E-46	9.394130218	8.4200125	0.017124323	ECM_AFFILIATED	1.198838305	1.115690769
C1QTNF5	10.38591028	9.229578758	2.29E-35	10.38591028	9.816803125	0.005306626	ECM_AFFILIATED	1.125285406	1.057972758
C1QTNF8	0.452791589	0.335373638	0.016336358	0.452791589	0.118353125	0.02004039	ECM_AFFILIATED	1.350110854	3.825767919
CCL18	7.961552025	7.110148818	7.71E-06	7.961552025	2.835803125	3.83E-13	SECRETED_FACTORS	1.11974478	2.807512255
CCL28	8.923380062	7.846971484	1.35E-15	8.923380062	7.83704375	0.005176882	SECRETED_FACTORS	1.137175034	1.138615573
CELA1	0.900054517	0.6377678	3.92E-06	0.900054517	0.119390625	3.38E-06	ECM_REGULATORS	1.411257385	7.538736958
CLCF1	9.926199065	7.578864274	1.40E-119	9.926199065	8.69990625	1.94E-09	SECRETED_FACTORS	1.309721181	1.140954716
CLEC17A	3.426080374	2.763759048	6.84E-09	3.426080374	2.38930625	0.000736231	ECM_AFFILIATED	1.239645105	1.43392266
CLEC4E	6.376849221	5.286163302	1.99E-23	6.376849221	5.307953125	0.000738535	ECM_AFFILIATED	1.206328457	1.201376325
CLEC5A	6.545141433	6.184372762	0.003972951	6.545141433	4.384225	1.49E-13	ECM_AFFILIATED	1.058335531	1.492884474
COL23A1	9.439427726	6.192223163	6.59E-139	9.439427726	7.159628125	5.54E-10	COLLAGENS	1.524400442	1.318424304
COL27A1	11.32645202	9.480106408	5.94E-77	11.32645202	10.31993438	4.35E-07	COLLAGENS	1.19476001	1.0975314
COLQ	6.8583081	6.26206762	3.24E-16	6.8583081	6.102709375	4.87E-05	ECM_GLYCOPROTEINS	1.095214634	1.12381365
COLQ	6.8583081	6.26206762	3.24E-16	6.8583081	6.102709375	4.87E-05	BASEMENT_MEMBRANES	1.095214634	1.12381365
CRELD1	10.86847944	10.22277786	2.38E-36	10.86847944	10.68195625	0.046787122	ECM_GLYCOPROTEINS	1.063163025	1.01746152
CST3	13.87110093	13.57421519	3.50E-06	13.87110093	13.13172188	7.83E-08	ECM_REGULATORS	1.021871301	1.056304807
CTSA	13.79110561	12.75228011	4.53E-85	13.79110561	13.5067625	0.030104231	ECM_REGULATORS	1.081461942	1.021051907
CTSB	15.5677704	15.22879197	3.28E-06	15.5677704	15.15025938	0.019058605	ECM_REGULATORS	1.02225905	1.027558012
CTSC	14.46493894	12.03806892	1.54E-172	14.46493894	13.08364063	2.13E-12	ECM_REGULATORS	1.201599612	1.105574462
CTSD	16.61061745	15.04259047	7.56E-159	16.61061745	16.03045938	0.001042485	ECM_REGULATORS	1.104239159	1.036190982
CTSL	13.04041807	11.76380357	2.53E-73	13.04041807	12.75044375	0.02995159	ECM_REGULATORS	1.108520556	1.022742292
CTSZ	13.5529757	12.78600574	8.38E-34	13.5529757	12.34570938	3.75E-11	ECM_REGULATORS	1.05998511	1.097788332
CX3CL1	12.6440215	10.45128073	9.06E-79	12.6440215	12.257825	0.004039731	SECRETED_FACTORS	1.209805938	1.031506119
CXCL1	8.110678816	6.955120429	1.07E-09	8.110678816	6.52434375	0.000271251	SECRETED_FACTORS	1.166144986	1.243140939
CXCL5	5.802856386	5.078675021	0.000185536	5.802856386	2.851815625	1.58E-06	SECRETED_FACTORS	1.142592578	2.034793672
CXCL6	8.086219938	4.379255152	1.74E-90	8.086219938	5.762940625	0.000134894	SECRETED_FACTORS	1.846482942	1.403141289
EBI3	6.608440187	5.996347445	8.49E-12	6.608440187	5.2003375	2.73E-08	SECRETED_FACTORS	1.102077598	1.270771404
EGFL8	8.128786916	7.67385114	2.91E-09	8.128786916	7.409	0.010091308	SECRETED_FACTORS	1.059283894	1.097150346
EGLN3	10.22908037	9.356348406	1.87E-12	10.22908037	9.4548625	0.002235524	ECM_REGULATORS	1.093276985	1.081885683

ELFN2	2.185737072	1.091319468	1.30E-34	2.185737072	1.1796125	4.48E-05	ECM_AFFILIATED	2.00283889	1.852928035
ELSPBP1	1.682143302	0.400242473	1.72E-80	1.682143302	0.52133125	0.003433874	ECM_GLYCOPROTEINS	4.20281059	3.226630481
F12	7.884756386	7.30649261	3.45E-05	7.884756386	5.290778125	1.72E-13	ECM_REGULATORS	1.079143826	1.490282941
FBLN7	8.16224891	7.268946263	2.95E-19	8.16224891	6.211996875	2.50E-09	ECM_GLYCOPROTEINS	1.122893005	1.313949294
FGF17	3.428017445	3.165921094	0.038448031	3.428017445	2.502115625	0.002310742	SECRETED_FACTORS	1.082786761	1.370047575
FGF20	2.082680685	1.855644531	0.038811808	2.082680685	1.110853125	0.000159748	SECRETED_FACTORS	1.122348947	1.874847933
GPC4	12.2659757	9.796160452	1.76E-86	12.2659757	11.7863625	0.021807793	ECM_AFFILIATED	1.252120743	1.040692215
HTRA4	4.644349844	3.286020429	2.83E-36	4.644349844	1.256496875	1.05E-14	ECM_REGULATORS	1.41336609	3.69626852
IGFBP6	11.63734174	8.715188514	8.09E-117	11.63734174	9.177053125	4.58E-11	ECM_GLYCOPROTEINS	1.335294323	1.268091356
KCP	10.93225171	5.632865192	0	10.93225171	10.00592813	0.000148395	ECM_GLYCOPROTEINS	1.940797683	1.092577478
LAMA3	10.62209564	9.84153712	5.36E-07	10.62209564	8.7836625	8.34E-09	BASEMENT_MEMBRANES	1.079312663	1.209301432
LAMA3	10.62209564	9.84153712	5.36E-07	10.62209564	8.7836625	8.34E-09	ECM_GLYCOPROTEINS	1.079312663	1.209301432
LAMA5	13.19917819	12.27180755	1.23E-29	13.19917819	12.87041563	0.018267389	ECM_GLYCOPROTEINS	1.075569197	1.025544052
LAMA5	13.19917819	12.27180755	1.23E-29	13.19917819	12.87041563	0.018267389	BASEMENT_MEMBRANES	1.075569197	1.025544052
LAMB1	14.51635919	12.08447157	4.07E-149	14.51635919	13.75882188	2.87E-05	ECM_GLYCOPROTEINS	1.201240709	1.055058298
LAMB1	14.51635919	12.08447157	4.07E-149	14.51635919	13.75882188	2.87E-05	BASEMENT_MEMBRANES	1.201240709	1.055058298
LAMC1	13.20527134	12.74272957	1.37E-09	13.20527134	12.56580313	3.12E-05	BASEMENT_MEMBRANES	1.036298484	1.050889562
LAMC1	13.20527134	12.74272957	1.37E-09	13.20527134	12.56580313	3.12E-05	ECM_GLYCOPROTEINS	1.036298484	1.050889562
LGALS12	4.018092835	2.965744046	1.95E-16	4.018092835	2.83313125	0.000474026	ECM_AFFILIATED	1.354834663	1.418251567
MASP1	10.18852461	6.013994785	2.30E-101	10.18852461	8.741159375	1.65E-05	ECM_REGULATORS	1.694135924	1.165580465
MMP15	11.68384143	10.78826829	1.85E-24	11.68384143	10.88892188	0.000396395	ECM_REGULATORS	1.083013615	1.073002595
MMP24	11.01330125	6.583126742	6.20E-264	11.01330125	10.3208875	0.002894253	ECM_REGULATORS	1.672959017	1.067088586
MMP7	13.07205826	7.939855923	1.91E-109	13.07205826	11.9315375	0.003654131	ECM_REGULATORS	1.646384819	1.09558875
MUC12	6.546148287	4.96823485	1.95E-19	6.546148287	2.312725	2.65E-13	ECM_AFFILIATED	1.317600412	2.830491427
MUC22	1.248452648	0.955345006	0.002749573	1.248452648	0.549109375	0.005760463	ECM_AFFILIATED	1.306808158	2.27359558
MUC3A	9.093922741	6.251572804	2.52E-45	9.093922741	5.70645625	8.46E-13	ECM_AFFILIATED	1.454661575	1.593619988
NTN5	4.013013084	3.722585082	0.001091724	4.013013084	2.834084375	3.69E-06	ECM_GLYCOPROTEINS	1.078017828	1.41598222
NTN5	4.013013084	3.722585082	0.001091724	4.013013084	2.834084375	3.69E-06	BASEMENT_MEMBRANES	1.078017828	1.41598222
OGFOD2	9.463765421	9.056172382	2.31E-27	9.463765421	9.24090625	0.020626991	ECM_REGULATORS	1.045007209	1.024116593
OTOG	3.096923988	1.158646569	4.64E-75	3.096923988	1.9328125	0.000268218	ECM_GLYCOPROTEINS	2.672880644	1.602288886
OVGP1	7.822942991	6.27086932	9.61E-60	7.822942991	6.4070375	4.85E-09	ECM_AFFILIATED	1.247505344	1.220992228
P4HTM	11.36993333	10.26899876	1.64E-48	11.36993333	10.97552813	5.70E-05	ECM_REGULATORS	1.107209534	1.035934964
PAPLN	12.23612492	8.998343095	2.61E-261	12.23612492	11.3163125	0.000120046	BASEMENT_MEMBRANES	1.359819779	1.081281992
PAPLN	12.23612492	8.998343095	2.61E-261	12.23612492	11.3163125	0.000120046	ECM_GLYCOPROTEINS	1.359819779	1.081281992
PLOD2	11.96637072	11.00814783	1.42E-21	11.96637072	11.13271563	9.01E-07	ECM_REGULATORS	1.087046695	1.074883355
PLOD3	12.17843053	11.66421617	2.38E-17	12.17843053	11.0299875	4.35E-17	ECM_REGULATORS	1.044084776	1.104120066
PLXDC2	12.02954019	10.79286649	1.23E-41	12.02954019	11.33408125	2.39E-05	ECM_AFFILIATED	1.114582507	1.061359975
PXDN	12.14663178	11.2128316	3.33E-19	12.14663178	10.14875625	5.75E-15	ECM_GLYCOPROTEINS	1.083279604	1.19685915
REG1B	1.742262617	0.831605184	5.86E-11	1.742262617	0.757484375	0.016708556	ECM_AFFILIATED	2.095059832	2.300064099
REG3G	4.680821807	0.752465266	1.29E-247	4.680821807	3.0763375	0.004342932	ECM_AFFILIATED	6.220648338	1.521556658
SEMA4F	9.016138629	8.657883224	1.70E-09	9.016138629	8.58793125	0.000704471	ECM_AFFILIATED	1.041379099	1.049861529
SEMA6A	11.34110685	9.413355469	3.39E-67	11.34110685	10.11896563	6.81E-09	ECM_AFFILIATED	1.204788972	1.120777288
SERPINE2	13.28343832	10.61310534	1.40E-90	13.28343832	10.9273	1.87E-11	ECM_REGULATORS	1.25160713	1.215619441
SLPI	10.48679595	9.820370365	0.002815295	10.48679595	9.2418625	0.032658316	ECM_REGULATORS	1.067861553	1.134705905
SPON2	12.26753707	10.24074302	8.69E-55	12.26753707	9.468040625	2.06E-12	ECM_GLYCOPROTEINS	1.197914746	1.295678542
SPP1	17.23932056	11.59797863	4.07E-242	17.23932056	15.96070938	1.28E-06	ECM_GLYCOPROTEINS	1.486407339	1.080109922

<b>SULF2</b>	12.89173178	11.74720074	2.95E-33	12.89173178	11.66308125	5.48E-08	ECM_REGULATORS	1.097430108	1.105345277
<b>TGM2</b>	12.99723614	11.97478609	3.57E-22	12.99723614	12.37251563	0.022808045	ECM_REGULATORS	1.085383575	1.050492602
<b>THBS3</b>	10.28046885	9.860752133	6.09E-13	10.28046885	9.2702	1.42E-10	ECM_GLYCOPROTEINS	1.042564371	1.108980264
<b>TIMP1</b>	13.27896885	13.0633727	0.029914409	13.27896885	11.24769063	1.89E-18	ECM_REGULATORS	1.016503866	1.180595136
<b>TIMP2</b>	13.60509938	13.32464488	0.000461695	13.60509938	13.13305938	0.006965581	ECM_REGULATORS	1.021047803	1.035942882
<b>TINAGL1</b>	13.33965794	10.38895489	8.82E-149	13.33965794	12.59830938	8.26E-06	ECM_GLYCOPROTEINS	1.284023089	1.058845084
<b>TLL2</b>	5.640549533	4.952078748	2.45E-11	5.640549533	4.697865625	0.000619081	ECM_REGULATORS	1.139026623	1.200662169
<b>TNFAIP6</b>	7.853962928	6.325536518	7.09E-30	7.853962928	3.591609375	2.15E-14	ECM_GLYCOPROTEINS	1.241627948	2.186753098
<b>VCAN</b>	13.02272741	11.58204903	3.08E-27	13.02272741	10.35019375	4.99E-11	PROTEOGLYCANS	1.124388904	1.258210979
<b>WNT2B</b>	7.807886916	7.570306894	0.012792755	7.807886916	7.264059375	0.038082634	SECRETED_FACTORS	1.031383143	1.074865514
<b>WNT5A</b>	9.663325545	9.166653262	0.000142986	9.663325545	8.2600125	1.46E-06	SECRETED_FACTORS	1.05418251	1.169892363
<b>VWDE</b>	4.841403427	4.296767061	0.000793592	4.841403427	3.898359375	0.035043347	ECM_GLYCOPROTEINS	1.12675492	1.241907931

**Acute Myeloid Leukemia (LAML)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
ADAM10	12.9438526	12.04652004	1.47E-57	12.9438526	7.340137247	0	ECM_REGULATORS	1.074488944	1.763434683
ADAM11	6.272948555	4.996735932	2.39E-18	6.272948555	5.243065182	5.57E-161	ECM_REGULATORS	1.255409259	1.196427726
ADAM17	11.50581503	10.18508517	1.01E-52	11.50581503	3.687994332	2.06E-195	ECM_REGULATORS	1.129672933	3.119802796
ADAM20	4.248837572	1.684467879	2.68E-206	4.248837572	2.451197976	7.27E-67	ECM_REGULATORS	2.522361884	1.733371851
ADAM28	11.17229538	7.985893853	3.65E-102	11.17229538	0.117832389	2.43E-31	ECM_REGULATORS	1.399003741	94.81514805
ADAM8	10.93917803	8.844270584	3.33E-54	10.93917803	2.167739676	1.47E-145	ECM_REGULATORS	1.236866051	5.04635227
ADAMTS10	8.554260694	7.648778621	8.98E-15	8.554260694	3.57282753	1.39E-112	ECM_REGULATORS	1.11838257	2.394255144
ADAMTS6	6.716960694	5.754721194	1.65E-12	6.716960694	0.021462348	3.64E-81	ECM_REGULATORS	1.167208709	312.9648554
ADAMTSL4	11.09090289	8.801570118	5.56E-63	11.09090289	5.204299595	6.68E-14	ECM_REGULATORS	1.260105043	2.131103847
AMH	5.666390173	4.836136843	7.71E-06	5.666390173	1.710121457	1.22E-28	SECRETED_FACTORS	1.171676972	3.313443118
ANGPT1	10.60055145	7.076903742	9.05E-114	10.60055145	1.965484615	3.04E-30	SECRETED_FACTORS	1.497908101	5.393352541
ANGPTL3	4.175817919	2.358567355	9.72E-14	4.175817919	1.401635628	8.80E-12	SECRETED_FACTORS	1.770489153	2.979246415
ANXA1	14.14795318	12.5695958	1.88E-23	14.14795318	0.036306883	2.31E-82	ECM_AFFILIATED	1.125569462	389.6768924
AREG	7.550857225	7.014058251	0.030869553	7.550857225	0.227155061	2.04E-05	SECRETED_FACTORS	1.076531867	33.24098174
ARTN	6.9857	5.485786184	1.70E-19	6.9857	0.261886235	8.60E-24	SECRETED_FACTORS	1.273418206	26.67455968
ASTL	2.554580347	1.930034691	1.17E-07	2.554580347	1.904823482	7.94E-47	ECM_REGULATORS	1.323592969	1.341111327
BMP8B	8.121893064	7.790625965	0.011475905	8.121893064	3.383938057	9.33E-70	SECRETED_FACTORS	1.042521243	2.400130537
CCL1	2.355576879	0.606005333	3.02E-111	2.355576879	0.705804049	1.36E-208	SECRETED_FACTORS	3.887056354	3.337437471
CCL3L3	5.933883237	5.506648109	0.003870467	5.933883237	4.902368421	8.72E-05	SECRETED_FACTORS	1.077585333	1.210411525
CLEC11A	11.83482486	8.470163845	1.36E-205	11.83482486	6.799356275	5.13E-09	ECM_AFFILIATED	1.397236827	1.740580193
CLEC12A	11.59656416	4.993967122	0	11.59656416	3.961307692	2.69E-53	ECM_AFFILIATED	2.322114639	2.927458572
CLEC12B	8.040116185	1.599652792	0	8.040116185	1.945121862	2.07E-22	ECM_AFFILIATED	5.026163317	4.133476848
CLEC17A	5.650477457	2.74487387	1.16E-81	5.650477457	1.722210526	1.03E-06	ECM_AFFILIATED	2.058556321	3.280944676
CLEC18A	5.865421387	4.952130182	8.40E-07	5.865421387	4.756684211	5.02E-99	ECM_AFFILIATED	1.184423909	1.233090348
CLEC2B	10.06702486	8.191380948	1.46E-53	10.06702486	6.539072065	3.99E-163	ECM_AFFILIATED	1.228977741	1.539518873
CLEC2D	10.98961965	8.137838094	4.33E-189	10.98961965	7.754911336	2.19E-157	ECM_AFFILIATED	1.350434787	1.417117382
CLEC4A	7.171749133	6.130756971	4.78E-27	7.171749133	0.113618219	1.17E-05	ECM_AFFILIATED	1.169798308	63.12147136
CLEC4D	5.328216763	2.227688491	5.67E-112	5.328216763	0.172690688	7.01E-59	ECM_AFFILIATED	2.391814109	30.85410578
CLEC4G	4.23326185	2.525975005	1.63E-27	4.23326185	2.918590283	8.42E-06	ECM_AFFILIATED	1.675892217	1.450447455
CLEC5A	8.68282948	6.181991885	7.35E-51	8.68282948	3.459968016	1.26E-50	ECM_AFFILIATED	1.404535891	2.509511487
CLEC7A	9.081417341	7.747657446	3.71E-23	9.081417341	9.055188664	1.22E-37	ECM_AFFILIATED	1.172150086	1.002896536
COCH	8.79724104	6.435326401	8.30E-35	8.79724104	1.409151012	1.31E-10	ECM_GLYCOPROTEINS	1.367023286	6.242937034
COL19A1	4.549876879	2.541607475	2.36E-30	4.549876879	2.529996761	0.008396548	COLLAGENS	1.790157183	1.79837261
COL23A1	7.52	6.575577972	3.12E-06	7.52	5.123671255	0.023257637	COLLAGENS	1.143625706	1.467697599
COL24A1	10.43625665	5.245340508	8.28E-261	10.43625665	5.248983401	1.68E-21	COLLAGENS	1.989624245	1.988243408
COLQ	7.852090173	6.248510287	2.40E-61	7.852090173	6.721824291	2.20E-15	ECM_GLYCOPROTEINS	1.256633952	1.16814868
COLQ	7.852090173	6.248510287	2.40E-61	7.852090173	6.721824291	2.20E-15	BASEMENT_MEMBRANES	1.256633952	1.16814868
CRLF3	11.53849075	9.005339422	0	11.53849075	10.00208988	1.47E-183	SECRETED_FACTORS	1.281294376	1.153607985
CST7	11.15283642	6.963638869	6.84E-175	11.15283642	3.935171255	0.004626887	ECM_REGULATORS	1.601581677	2.834142581
CSTA	9.417616185	7.583918024	4.44E-15	9.417616185	0.360797571	2.50E-36	ECM_REGULATORS	1.241787709	26.10221616
CTSA	13.34331792	12.80281218	4.70E-14	13.34331792	0.218745344	1.72E-221	ECM_REGULATORS	1.042217736	60.99932308
CTSC	12.89961503	12.15051554	1.49E-10	12.89961503	2.008253846	1.29E-256	ECM_REGULATORS	1.061651663	6.423299053



CTSG	11.20455087	3.707475567	2.35E-303	11.20455087	10.10622955	6.73E-07	ECM_REGULATORS	3.022150966	1.108677653
CTSS	13.30250173	11.38905414	7.47E-59	13.30250173	1.435295142	8.42E-259	ECM_REGULATORS	1.168007595	9.268129841
CTSW	11.61744509	6.857769217	5.97E-213	11.61744509	7.856733198	1.75E-39	ECM_REGULATORS	1.694056	1.478661015
CXCL2	7.757123699	7.036650853	0.000243546	7.757123699	5.453459919	7.18E-11	SECRETED_FACTORS	1.102388602	1.422422428
CXCL3	6.194993642	5.329789034	1.94E-05	6.194993642	0.921595951	0.00035187	SECRETED_FACTORS	1.162333744	6.722027839
CXCL8	9.700831792	8.007138705	5.05E-15	9.700831792	5.072441296	0.014612053	SECRETED_FACTORS	1.211522886	1.912458169
DDX26B	11.44502312	8.11844362	1.16E-262	11.44502312	4.050267206	8.67E-188	ECM_GLYCOPROTEINS	1.409755817	2.825745201
ECM2	8.428275145	8.124389432	0.024761478	8.428275145	2.296951417	2.16E-12	ECM_GLYCOPROTEINS	1.037404129	3.669331046
EGFL8	8.340536416	7.64745797	2.24E-11	8.340536416	5.877795547	1.22E-50	SECRETED_FACTORS	1.090628605	1.418990564
ELANE	10.87367861	1.630488899	0	10.87367861	6.553738462	6.00E-25	ECM_REGULATORS	6.668968199	1.659156629
EMID1	10.17125607	8.120219566	7.02E-47	10.17125607	4.51798502	1.33E-95	ECM_GLYCOPROTEINS	1.252583873	2.251281495
EMILIN2	12.27820751	9.281946122	1.15E-152	12.27820751	2.904724696	2.12E-66	ECM_GLYCOPROTEINS	1.322805299	4.226978044
EPGN	5.804923121	1.832324753	1.29E-97	5.804923121	1.894318623	9.60E-39	SECRETED_FACTORS	3.168064565	3.064385816
EREG	8.497576301	4.250374762	3.12E-58	8.497576301	1.47559919	3.84E-56	SECRETED_FACTORS	1.999253425	5.758729306
EYS	7.171964162	4.208640295	9.68E-166	7.171964162	4.568393522	3.27E-16	ECM_GLYCOPROTEINS	1.704104808	1.56990945
F13A1	11.73250925	9.187595734	7.77E-56	11.73250925	6.308240486	7.65E-06	ECM_REGULATORS	1.276994503	1.85987032
FAM20B	11.47866358	11.29822391	0.000205542	11.47866358	1.862123077	1.14E-11	ECM_REGULATORS	1.015970623	6.164288347
FCN1	11.33375202	6.31953918	4.57E-202	11.33375202	2.474690688	2.06E-10	ECM_AFFILIATED	1.793445962	4.579866113
FGF17	5.616921387	3.078817093	8.03E-52	5.616921387	1.323577328	1.57E-11	SECRETED_FACTORS	1.824376446	4.243742522
FNDC7	1.784879769	0.765987948	1.02E-29	1.784879769	0.012794737	1.96E-74	ECM_GLYCOPROTEINS	2.330166907	139.5010926
GRIFIN	2.493548555	0.151489393	0	2.493548555	1.624798381	7.27E-76	ECM_AFFILIATED	16.4602188	1.534681832
HPSE	8.447778613	7.768240973	9.63E-09	8.447778613	5.664127126	6.99E-25	ECM_REGULATORS	1.087476385	1.491452862
HYAL3	9.00286185	7.078630153	4.49E-139	9.00286185	3.313623482	6.34E-257	ECM_REGULATORS	1.271836733	2.716923603
IMPG2	6.310452601	3.81454489	9.76E-94	6.310452601	1.175668421	9.90E-122	PROTEOGLYCANS	1.654313367	5.367544529
KNG1	3.337751445	2.198945676	0.000122203	3.337751445	2.913063968	9.02E-148	ECM_REGULATORS	1.517887177	1.145787213
KY	4.549816763	3.145937086	2.14E-16	4.549816763	1.514387449	1.43E-101	ECM_REGULATORS	1.44625167	3.00439413
LGALS12	7.602139306	3.057418955	6.35E-146	7.602139306	0.560155466	3.62E-13	ECM_AFFILIATED	2.486456524	13.57148109
LGALS8	12.51443121	11.27085609	1.24E-75	12.51443121	6.346947368	8.52E-198	ECM_AFFILIATED	1.110335463	1.971724435
LGALS9	12.76034104	10.85436987	3.43E-65	12.76034104	5.830256275	1.27E-200	ECM_AFFILIATED	1.175594825	2.188641534
LGALS9C	4.491741618	3.677051018	4.48E-05	4.491741618	4.138217814	2.88E-31	ECM_AFFILIATED	1.221560864	1.085428999
LOXL3	9.226018497	7.824301891	9.83E-36	9.226018497	1.654054656	1.07E-258	ECM_REGULATORS	1.179149095	5.577819611
MASP2	8.973761272	4.799598129	8.40E-137	8.973761272	7.579575304	5.92E-117	ECM_REGULATORS	1.869690135	1.183939853
MFAP3	9.452482081	8.756427002	8.49E-16	9.452482081	0.008181377	5.59E-175	ECM_GLYCOPROTEINS	1.079490765	1155.365733
MMP21	3.063899422	1.247988908	4.75E-114	3.063899422	2.095264777	9.07E-132	ECM_REGULATORS	2.455069433	1.462297011
MMP25	7.784336416	6.303884322	2.53E-38	7.784336416	0.021526316	5.18E-71	ECM_REGULATORS	1.234847598	361.6195401
MMP8	6.255147399	1.920925771	1.25E-139	6.255147399	2.016360729	3.74E-54	ECM_REGULATORS	3.256319163	3.102196601
MMRN1	10.12605318	6.643129145	5.34E-90	10.12605318	7.531660324	6.49E-32	ECM_GLYCOPROTEINS	1.524289677	1.344464931
MUC19	6.412321965	1.457422726	5.81E-254	6.412321965	0.566216599	6.88E-72	ECM_AFFILIATED	4.399768063	11.32485691
MUC6	6.790424855	4.110726537	1.19E-21	6.790424855	5.225644534	0.007986686	ECM_AFFILIATED	1.65187949	1.299442549
NGLY1	11.53614046	9.946942942	2.77E-296	11.53614046	2.755565587	0	ECM_REGULATORS	1.159767431	4.186487346
NTN3	3.513287283	2.087444454	1.20E-29	3.513287283	2.342884211	3.36E-88	ECM_GLYCOPROTEINS	1.683056656	1.499556516
NTN3	3.513287283	2.087444454	1.20E-29	3.513287283	2.342884211	3.36E-88	BASEMENT_MEMBRANES	1.683056656	1.499556516
NTN5	5.130250289	3.67578025	3.65E-34	5.130250289	0.968868421	5.54E-53	ECM_GLYCOPROTEINS	1.39569015	5.295094956
NTN5	5.130250289	3.67578025	3.65E-34	5.130250289	0.968868421	5.54E-53	BASEMENT_MEMBRANES	1.39569015	5.295094956
NTNG2	10.28887746	5.874825461	6.78E-181	10.28887746	1.466815789	8.87E-14	BASEMENT_MEMBRANES	1.751350321	7.014430531
NTNG2	10.28887746	5.874825461	6.78E-181	10.28887746	1.466815789	8.87E-14	ECM_GLYCOPROTEINS	1.751350321	7.014430531

<b>OGFOD1</b>	10.66913353	10.46473275	7.98E-08	10.66913353	1.7273	1.33E-45	ECM_REGULATORS	1.019532345	6.17676925
<b>OGFOD2</b>	9.175483815	9.066398041	0.032076855	9.175483815	6.328080162	2.18E-38	ECM_REGULATORS	1.012031876	1.449963272
<b>OGN</b>	7.705776879	6.172076895	8.59E-10	7.705776879	1.990348178	1.08E-79	PROTEOGLYCANS	1.248490096	3.871572302
<b>PLXDC2</b>	11.2131815	10.891156	0.008922507	11.2131815	0.137824291	9.43E-72	ECM_AFFILIATED	1.029567614	81.35852817
<b>PLXNC1</b>	11.2651474	9.636059143	2.27E-39	11.2651474	0.794257085	8.42E-122	ECM_AFFILIATED	1.169061671	14.18325075
<b>PLXND1</b>	13.51380058	11.83996109	2.03E-82	13.51380058	2.477731579	0.027130201	ECM_AFFILIATED	1.141372043	5.454101926
<b>PRG2</b>	8.108887861	1.85115956	0	8.108887861	1.200249798	2.72E-83	PROTEOGLYCANS	4.380437018	6.756000191
<b>PRG4</b>	5.660745665	5.028648119	0.008054864	5.660745665	0.170848178	1.44E-106	PROTEOGLYCANS	1.125699299	33.13319303
<b>SEMA4A</b>	11.21776012	9.698539083	2.89E-34	11.21776012	0.775150607	6.49E-29	ECM_AFFILIATED	1.156644317	14.47171686
<b>SEMA4D</b>	12.7009896	10.40048786	3.09E-161	12.7009896	2.606353846	2.66E-172	ECM_AFFILIATED	1.221191714	4.873087211
<b>SERPINB1</b>	14.10931734	11.50648687	1.80E-120	14.10931734	2.378901619	1.41E-116	ECM_REGULATORS	1.226205487	5.93102179
<b>SERPINB10</b>	8.213713295	1.092046665	0	8.213713295	5.445735628	2.52E-05	ECM_REGULATORS	7.521394058	1.508283519
<b>SERPINB2</b>	7.440518497	3.891332742	5.82E-36	7.440518497	1.472166397	4.49E-54	ECM_REGULATORS	1.9120746	5.054128741
<b>SERPINB8</b>	10.98026127	8.745631918	1.94E-131	10.98026127	4.302958704	1.25E-57	ECM_REGULATORS	1.255513767	2.551793318
<b>SERPINB9</b>	9.929163584	9.257366473	3.95E-11	9.929163584	0.864357895	0	ECM_REGULATORS	1.072568923	11.48732908
<b>SERPIND1</b>	6.521765318	3.246120719	5.30E-37	6.521765318	1.690732794	2.50E-90	ECM_REGULATORS	2.009095127	3.857360159
<b>SERPINI2</b>	6.863645087	1.522773366	6.42E-242	6.863645087	5.413568421	2.33E-10	ECM_REGULATORS	4.507331976	1.267859673
<b>SLIT1</b>	6.431248555	5.417977274	8.68E-06	6.431248555	5.280717004	1.96E-40	ECM_GLYCOPROTEINS	1.187020216	1.217874116
<b>SRGN</b>	15.38833121	10.8746825	0	15.38833121	3.283348988	9.66E-138	PROTEOGLYCANS	1.415060276	4.686779039
<b>SSPO</b>	7.86233237	5.512489752	6.89E-51	7.86233237	0.724367206	2.38E-149	ECM_GLYCOPROTEINS	1.426276097	10.85407001
<b>THBS3</b>	10.0452815	9.856948885	0.016535824	10.0452815	4.043587045	1.13E-134	ECM_GLYCOPROTEINS	1.019106584	2.484250096
<b>VCAN</b>	12.71811908	11.66010408	4.16E-09	12.71811908	0.147120243	2.69E-06	PROTEOGLYCANS	1.09073804	86.44710492
<b>WFIKKN1</b>	6.477812717	5.008217452	3.35E-32	6.477812717	0.183051012	8.35E-61	SECRETED_FACTORS	1.293436792	35.38801911
<b>WNT1</b>	1.349380925	0.687615969	5.05E-19	1.349380925	0.352096356	4.90E-117	SECRETED_FACTORS	1.962404869	3.832419452
<b>WNT16</b>	4.675616763	2.550006147	1.14E-47	4.675616763	2.565715385	7.01E-27	SECRETED_FACTORS	1.833570781	1.822344283
<b>WNT2B</b>	8.933253757	7.55502292	1.05E-26	8.933253757	8.476351012	3.12E-92	SECRETED_FACTORS	1.182425765	1.053903236
<b>VWCE</b>	7.879437572	5.798354334	6.84E-37	7.879437572	5.376004049	7.98E-55	ECM_GLYCOPROTEINS	1.35890929	1.465668087
<b>XCL2</b>	3.796474566	3.486271553	0.029322267	3.796474566	0.041340891	1.29E-42	SECRETED_FACTORS	1.088978443	91.83340038
<b>ZFP91</b>	12.38289595	11.64241937	7.35E-53	12.38289595	0.60864332	2.54E-275	SECRETED_FACTORS	1.063601607	20.34507823

**Brain Lower Grade Glioma (LGG)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
<b>A2M</b>	14.2534413	14.08456856	0.036741604	14.2534413	13.3281	0.011803153	ECM_REGULATORS	1.011989912	1.069427848
<b>ABI3BP</b>	9.620694073	8.639476095	1.94E-20	9.620694073	7.7298	0.009356049	ECM_GLYCOPROTEINS	1.113573782	1.244623932
<b>ADAM17</b>	10.56405201	10.17811342	4.00E-14	10.56405201	9.79774	0.014642725	ECM_REGULATORS	1.03791848	1.07821314
<b>ADAMTS20</b>	4.615450669	1.601717176	4.98E-191	4.615450669	1.6891	0.012039795	ECM_REGULATORS	2.881564074	2.732491072
<b>ADAMTS6</b>	8.155678585	5.613373369	3.95E-235	8.155678585	5.10728	1.88E-09	ECM_REGULATORS	1.4529015	1.596873206
<b>ADAMTS9</b>	9.466436902	8.96845603	9.01E-10	9.466436902	8.12938	0.009172046	ECM_REGULATORS	1.05552582	1.164472186
<b>AMH</b>	8.026862333	4.640634749	2.78E-225	8.026862333	5.77342	0.005131941	SECRETED_FACTORS	1.729690606	1.390313252
<b>ANGPTL2</b>	12.54337361	10.30002002	1.18E-181	12.54337361	9.82668	1.16E-06	SECRETED_FACTORS	1.217800896	1.276460983
<b>BCAN</b>	16.70403002	3.738930879	0	16.70403002	13.6481	1.01E-07	PROTEOGLYCANS	4.467595299	1.223908824
<b>BMP2</b>	10.59951128	7.892823374	3.41E-142	10.59951128	7.57198	3.06E-05	SECRETED_FACTORS	1.342930252	1.399833502
<b>BMP7</b>	12.12375296	7.749604289	3.28E-154	12.12375296	11.11576	0.002296236	SECRETED_FACTORS	1.5644351	1.090681426
<b>C1QL1</b>	12.17040229	5.470629542	0	12.17040229	9.54586	0.000391298	ECM_AFFILIATED	2.224680396	1.274940371
<b>C1QTNF1</b>	10.10105048	9.803191698	9.68E-05	10.10105048	8.39614	0.003464395	ECM_AFFILIATED	1.030383858	1.203058843
<b>C1QTNF5</b>	11.11847897	9.224824415	1.74E-151	11.11847897	8.31122	2.97E-10	ECM_AFFILIATED	1.205278113	1.337767376
<b>CLEC4F</b>	5.119072658	3.191926539	2.01E-119	5.119072658	1.03112	1.46E-06	ECM_AFFILIATED	1.603756413	4.964575081
<b>CRISPLD1</b>	10.58353767	7.920171806	4.92E-156	10.58353767	8.618	5.46E-05	ECM_GLYCOPROTEINS	1.336276274	1.228073528
<b>CSF1</b>	11.42384723	10.52971149	9.45E-56	11.42384723	10.41772	0.019917551	SECRETED_FACTORS	1.084915502	1.096578448
<b>CTSO</b>	11.21049962	10.41942741	5.14E-57	11.21049962	9.74212	5.77E-06	ECM_REGULATORS	1.07592281	1.150724854
<b>EFEMP1</b>	11.74695679	10.3545701	1.95E-39	11.74695679	10.28012	0.023888391	ECM_GLYCOPROTEINS	1.134470738	1.142686738
<b>EGFL8</b>	8.986040918	7.577419851	2.23E-121	8.986040918	8.23844	0.034974029	SECRETED_FACTORS	1.185897191	1.090745447
<b>ELN</b>	11.06343327	9.960839426	2.15E-27	11.06343327	9.6098	0.002055739	ECM_GLYCOPROTEINS	1.110692864	1.151265715
<b>FBN2</b>	7.914928107	7.156657102	8.43E-11	7.914928107	5.37108	0.00049353	ECM_GLYCOPROTEINS	1.10595324	1.473619478
<b>FGF11</b>	10.48437476	7.485597978	1.22E-213	10.48437476	8.68298	5.34E-06	SECRETED_FACTORS	1.400606176	1.207462733
<b>FGF2</b>	10.94636119	7.605882212	2.72E-305	10.94636119	10.30794	0.045054253	SECRETED_FACTORS	1.43919678	1.061934895
<b>GPC2</b>	9.041081071	5.339490218	0	9.041081071	6.59618	8.94E-07	ECM_AFFILIATED	1.693247989	1.370654086
<b>IGFBP1</b>	5.188856788	2.828676024	1.29E-54	5.188856788	3.26974	0.020135081	ECM_GLYCOPROTEINS	1.834376487	1.586932535
<b>LOXL3</b>	9.017237667	7.745675268	1.83E-86	9.017237667	7.88156	0.00470528	ECM_REGULATORS	1.164164176	1.144093005
<b>LTBP3</b>	13.08680287	12.10880309	6.61E-72	13.08680287	12.31454	0.004088892	ECM_GLYCOPROTEINS	1.080767667	1.062711467
<b>MASP1</b>	11.94411759	6.007358593	0	11.94411759	8.93504	6.86E-08	ECM_REGULATORS	1.988247814	1.336772705
<b>MATN2</b>	11.53295315	10.21987741	1.24E-58	11.53295315	10.16568	0.008627595	ECM_GLYCOPROTEINS	1.128482534	1.134498937
<b>MATN3</b>	7.377682792	6.422352037	1.27E-21	7.377682792	6.55734	0.03658978	ECM_GLYCOPROTEINS	1.148750917	1.125102983
<b>MEP1A</b>	3.418512046	2.593111222	2.68E-10	3.418512046	1.95394	0.033023487	ECM_REGULATORS	1.318305214	1.749548116
<b>MFAP1</b>	10.52323289	10.36659452	5.42E-12	10.52323289	10.24414	0.030378151	ECM_GLYCOPROTEINS	1.015109916	1.02724415
<b>MMP16</b>	11.47538623	6.534650148	0	11.47538623	10.08548	0.004060414	ECM_REGULATORS	1.756082724	1.137812601
<b>NTN1</b>	11.71538489	8.219197304	4.68E-251	11.71538489	9.07214	1.26E-09	BASEMENT_MEMBRANES	1.425368495	1.291358477
<b>NTN1</b>	11.71538489	8.219197304	4.68E-251	11.71538489	9.07214	1.26E-09	ECM_GLYCOPROTEINS	1.425368495	1.291358477
<b>PLXNA3</b>	10.94491185	10.71939606	4.70E-06	10.94491185	10.17876	0.004209866	ECM_AFFILIATED	1.021038107	1.075269665
<b>PODN</b>	9.46768738	8.912276391	4.21E-08	9.46768738	7.98692	0.008747869	PROTEOGLYCANS	1.062319767	1.18539905
<b>SEMA5A</b>	12.04332581	9.578621883	1.04E-168	12.04332581	10.95534	0.033454814	ECM_AFFILIATED	1.257313	1.099311004
<b>SEMA6A</b>	12.28387591	9.411305514	1.42E-238	12.28387591	11.59464	0.031211903	ECM_AFFILIATED	1.305225496	1.059444356
<b>SMOC1</b>	13.92400956	6.587153773	0	13.92400956	11.10822	0.000628423	ECM_GLYCOPROTEINS	2.113812739	1.253487018
<b>SPARC</b>	16.99384723	15.03396626	1.57E-166	16.99384723	13.82872	1.57E-09	ECM_GLYCOPROTEINS	1.130363534	1.228880708

<b>SRPX</b>	10.39182428	8.003414041	9.14E-126	10.39182428	8.07598	0.000191407	ECM_GLYCOPROTEINS	1.298423926	1.28675706
<b>SULF2</b>	13.31131549	11.71489504	4.48E-103	13.31131549	11.30822	1.79E-05	ECM_REGULATORS	1.136272706	1.177136233
<b>TGM5</b>	3.389331358	2.902514786	3.69E-05	3.389331358	1.55432	0.018243093	ECM_REGULATORS	1.16772234	2.180587883
<b>TIMP3</b>	14.11998967	13.16736585	1.83E-30	14.11998967	12.42296	1.52E-05	ECM_REGULATORS	1.072347334	1.136604294
<b>TIMP4</b>	11.13904493	4.989430644	0	11.13904493	7.32874	8.34E-09	ECM_REGULATORS	2.232528264	1.519912691
<b>TNC</b>	12.42727763	11.78978764	2.39E-09	12.42727763	10.10318	0.000689646	ECM_GLYCOPROTEINS	1.054071371	1.230036249
<b>VCAN</b>	13.69108642	11.54805434	9.45E-93	13.69108642	11.1978	1.27E-07	PROTEOGLYCANS	1.185575164	1.222658596
<b>WNT5A</b>	9.341081644	9.054258664	0.005387261	9.341081644	8.03454	0.012285011	SECRETED_FACTORS	1.03167824	1.162615613
<b>VWCE</b>	8.119607839	5.683643368	4.77E-145	8.119607839	6.86424	0.006739663	ECM_GLYCOPROTEINS	1.428592069	1.18288519

**Liver Hepatocellular Carcinoma (LIHC)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
<b>ADAMTS10</b>	8.142894299	7.635274144	1.91E-11	8.142894299	7.486658	0.00195358	ECM_REGULATORS	1.066483553	1.087654104
<b>AMBN</b>	0.853220428	0.3279475	2.72E-26	0.853220428	0	0.000890941	ECM_GLYCOPROTEINS	2.60169822	Inf
<b>C17orf58</b>	9.232926603	8.744455833	4.14E-28	9.232926603	8.561548	1.33E-10	ECM_REGULATORS	1.055860625	1.078417899
<b>CBLN1</b>	5.568139905	3.936572458	5.82E-34	5.568139905	4.419758	0.000348208	SECRETED_FACTORS	1.41446397	1.259829137
<b>CCL15</b>	9.854640143	2.415644656	0	9.854640143	9.202952	0.00882769	SECRETED_FACTORS	4.079507355	1.070812946
<b>CCL20</b>	8.750070546	5.85601887	1.96E-66	8.750070546	7.15508	0.000230199	SECRETED_FACTORS	1.494201221	1.222917221
<b>CCL25</b>	4.60824228	2.165042421	1.35E-81	4.60824228	2.379118	1.82E-06	SECRETED_FACTORS	2.128476669	1.936954065
<b>CELA3A</b>	0.91937981	0.528904151	1.97E-05	0.91937981	0.072372	0.000561595	ECM_REGULATORS	1.738273008	12.70352913
<b>CLEC14A</b>	9.376042518	9.003399132	2.86E-07	9.376042518	9.030356	0.014919114	ECM_AFFILIATED	1.041389189	1.038280497
<b>COL27A1</b>	10.84546865	9.541330536	1.89E-49	10.84546865	10.50045	0.018941356	COLLAGENS	1.136683045	1.03285751
<b>COL5A3</b>	10.38562732	9.412519309	3.19E-26	10.38562732	9.283058	2.24E-05	COLLAGENS	1.103384437	1.11877221
<b>CRELD1</b>	10.71393492	10.2293722	3.59E-28	10.71393492	10.300148	6.21E-07	ECM_GLYCOPROTEINS	1.047369742	1.04017291
<b>CRELD2</b>	10.99834703	10.3681307	6.53E-53	10.99834703	10.296032	3.70E-09	ECM_GLYCOPROTEINS	1.060783988	1.068212204
<b>CSTL1</b>	0.699043705	0.580929847	0.016614064	0.699043705	0.374988	0.044393987	ECM_REGULATORS	1.203318626	1.864176202
<b>CTSA</b>	13.69355297	12.77392136	4.06E-88	13.69355297	12.823326	1.07E-14	ECM_REGULATORS	1.071992898	1.067862813
<b>EGLN1</b>	11.94505012	11.17259565	7.09E-97	11.94505012	11.758498	0.03237828	ECM_REGULATORS	1.069138318	1.015865302
<b>EGLN2</b>	11.68868717	11.41882167	3.43E-16	11.68868717	11.209264	1.96E-07	ECM_REGULATORS	1.023633393	1.042770263
<b>FBLN7</b>	8.720601425	7.233815028	6.72E-66	8.720601425	8.106112	0.000731723	ECM_GLYCOPROTEINS	1.205532819	1.075805691
<b>GPC3</b>	12.46773349	7.863516386	1.36E-237	12.46773349	8.105304	7.88E-18	ECM_AFFILIATED	1.585516311	1.538219108
<b>LGALS8</b>	11.78049335	11.269759	5.34E-31	11.78049335	11.555006	0.023552646	ECM_AFFILIATED	1.045319013	1.019514256
<b>MEP1A</b>	4.136321378	2.571939098	1.57E-27	4.136321378	1.647292	1.00E-06	ECM_REGULATORS	1.608250126	2.510982496
<b>MUC13</b>	8.896255582	4.625577288	6.70E-82	8.896255582	5.724394	1.93E-08	ECM_AFFILIATED	1.923274659	1.554095609
<b>OGFOD2</b>	9.753190261	9.036881988	8.12E-107	9.753190261	9.440706	0.000163832	ECM_REGULATORS	1.07926498	1.033099671
<b>PLOD1</b>	13.20997387	12.49407436	4.49E-50	13.20997387	12.938524	0.010653468	ECM_REGULATORS	1.057299123	1.020979972
<b>PLOD3</b>	12.29088551	11.66115053	1.89E-33	12.29088551	11.326502	2.45E-19	ECM_REGULATORS	1.054002817	1.085143984
<b>REG1A</b>	3.881072922	2.828283195	8.92E-07	3.881072922	1.105046	7.88E-06	ECM_AFFILIATED	1.372236319	3.51213698
<b>REG3A</b>	4.71291924	1.146505079	3.31E-112	4.71291924	1.272898	5.19E-06	ECM_AFFILIATED	4.110683262	3.702511309
<b>SEMA6C</b>	9.14252114	8.341219629	2.00E-35	9.14252114	7.947982	3.09E-11	ECM_AFFILIATED	1.096065269	1.150294646
<b>SPON2</b>	12.61736295	10.21770282	1.10E-101	12.61736295	11.768112	4.41E-07	ECM_GLYCOPROTEINS	1.234853192	1.072165437
<b>TGM3</b>	6.971352257	3.865587137	4.23E-86	6.971352257	3.389808	4.32E-14	ECM_REGULATORS	1.803439428	2.056562571
<b>TINAG</b>	3.103591924	1.888654027	2.28E-13	3.103591924	0.508714	8.02E-07	ECM_GLYCOPROTEINS	1.643282401	6.100858093
<b>TMPRSS15</b>	1.453154394	0.984701297	7.30E-08	1.453154394	0.074748	0.000410202	ECM_REGULATORS	1.475731167	19.44071272
<b>TSPEAR</b>	3.505656295	2.613054575	3.86E-17	3.505656295	2.752282	0.004042314	ECM_GLYCOPROTEINS	1.341593217	1.273727145
<b>VWA7</b>	6.914300713	6.571677298	0.000144315	6.914300713	6.32681	0.002140942	ECM_GLYCOPROTEINS	1.052136372	1.092857335

Lung Adenocarcinoma (LUAD)

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
ADAM12	8.848474042	8.348884303	6.73E-06	8.848474042	6.561020339	5.45E-19	ECM_REGULATORS	1.059839102	1.348642983
ADAM15	12.71221254	12.12676564	9.63E-44	12.71221254	11.90235424	3.47E-14	ECM_REGULATORS	1.048277251	1.068041859
ADAM19	9.638549652	8.974371885	3.75E-21	9.638549652	9.040608475	5.89E-05	ECM_REGULATORS	1.074008273	1.066139484
ADAM2	0.721807666	0.558411265	0.01336353	0.721807666	0.058111864	0.000674348	ECM_REGULATORS	1.292609427	12.4210034
ADAM28	9.412993728	7.91717527	4.35E-70	9.412993728	7.675532203	5.25E-19	ECM_REGULATORS	1.188933352	1.226363655
ADAM8	10.54010592	8.731807571	4.33E-126	10.54010592	8.872135593	3.07E-20	ECM_REGULATORS	1.207093244	1.188000996
ADAM9	12.65690906	11.71973271	5.64E-65	12.65690906	12.35555424	0.023919962	ECM_REGULATORS	1.079965676	1.024390231
ADAMDEC1	7.424546864	5.936989589	3.77E-36	7.424546864	5.417447458	5.00E-12	ECM_REGULATORS	1.250557501	1.370488025
ADAMTS12	9.264763763	7.851592077	1.04E-44	9.264763763	7.958935593	1.02E-11	ECM_REGULATORS	1.179985368	1.164070704
ADAMTS14	7.163511672	6.635430198	7.08E-09	7.163511672	4.933784746	1.32E-25	ECM_REGULATORS	1.079585115	1.451930322
ADAMTS16	6.612009059	5.034281014	8.16E-44	6.612009059	4.162805085	3.47E-18	ECM_REGULATORS	1.313396896	1.588354229
ADAMTS2	9.8477777	9.441430027	5.87E-06	9.8477777	9.341244068	0.002237282	ECM_REGULATORS	1.043038785	1.0542255
ADAMTSL5	6.40815122	6.177318889	0.008268301	6.40815122	5.471638983	4.99E-06	ECM_REGULATORS	1.037367721	1.171157534
AGRN	13.64358275	13.26079766	1.12E-11	13.64358275	13.23345085	0.005757839	BASEMENT_MEMBRANES	1.028865917	1.03099206
AGRN	13.64358275	13.26079766	1.12E-11	13.64358275	13.23345085	0.005757839	ECM_GLYCOPROTEINS	1.028865917	1.03099206
ANGPTL4	9.622597213	9.294404527	0.001747439	9.622597213	8.419622034	7.09E-06	SECRETED_FACTORS	1.035310781	1.142877575
ANXA10	2.794986237	2.250012568	0.000233315	2.794986237	0.802064407	6.88E-07	ECM_AFFILIATED	1.242209167	3.484740394
ASPN	9.445250871	8.283267336	1.33E-26	9.445250871	9.046740678	0.045178635	PROTEOGLYCANS	1.14028082	1.04405014
BGN	14.02716411	13.14403239	2.40E-24	14.02716411	13.68819153	0.015882831	PROTEOGLYCANS	1.067188797	1.024763869
BMP8A	4.402228049	4.233057469	0.03982155	4.402228049	2.359913559	4.19E-20	SECRETED_FACTORS	1.039964158	1.865419194
BMP8B	7.97126446	7.785403332	0.012707897	7.97126446	6.983752542	2.30E-11	SECRETED_FACTORS	1.023873025	1.141401333
C1QL2	2.574679617	1.56304504	1.32E-23	2.574679617	1.275869492	0.000567784	ECM_AFFILIATED	1.647220362	2.017980392
C1QTNF6	9.506119512	9.358422232	0.013501192	9.506119512	7.607322034	2.29E-26	ECM_AFFILIATED	1.015782284	1.249601301
CBLN3	7.112201045	6.731921741	1.72E-12	7.112201045	6.722327119	0.000879314	SECRETED_FACTORS	1.056488967	1.057996869
CCL1	1.206354704	0.585415387	2.29E-45	1.206354704	0.541835593	9.67E-05	SECRETED_FACTORS	2.060681578	2.226422035
CCL19	8.519009756	6.00968536	3.90E-75	8.519009756	7.427488136	7.92E-05	SECRETED_FACTORS	1.417546718	1.146957033
CCL20	8.601482578	5.6792485	8.52E-91	8.601482578	7.528376271	0.000426218	SECRETED_FACTORS	1.514545908	1.142541535
CCL22	8.14944007	5.80571685	3.20E-119	8.14944007	7.683220339	0.025103088	SECRETED_FACTORS	1.403692305	1.06068025
CCL26	3.287485889	2.992511927	0.000326706	3.287485889	2.41969661	0.000112071	SECRETED_FACTORS	1.098570689	1.358635572
CCL7	3.910518467	2.122847421	6.23E-93	3.910518467	2.284505085	5.86E-09	SECRETED_FACTORS	1.842110002	1.711757392
CHAD	5.165752091	4.90545464	0.019617279	5.165752091	4.662118644	0.049298488	PROTEOGLYCANS	1.05306286	1.108026733
CHRD	8.006191115	7.648675334	4.13E-05	8.006191115	7.406262712	0.003901321	SECRETED_FACTORS	1.046742183	1.081002852
CHRDL2	5.85492108	4.721666086	1.36E-19	5.85492108	5.017574576	0.00065872	SECRETED_FACTORS	1.240011677	1.166882722
CILP	8.026508537	6.874250443	4.75E-18	8.026508537	6.427998305	4.28E-08	ECM_GLYCOPROTEINS	1.167619452	1.248679318
CILP2	7.548761847	6.195282958	6.08E-35	7.548761847	4.452372881	3.73E-27	ECM_GLYCOPROTEINS	1.218469261	1.695446911
CLCF1	8.780628746	7.644861121	1.19E-48	8.780628746	7.854884746	9.94E-08	SECRETED_FACTORS	1.148566155	1.117855835
CLEC17A	3.594714111	2.697537608	1.65E-25	3.594714111	2.689708475	7.82E-05	ECM_AFFILIATED	1.332590916	1.336469787
CLEC2D	8.674361498	8.138486802	1.56E-21	8.674361498	8.176230508	0.000419804	ECM_AFFILIATED	1.065844513	1.060924284
COCH	7.039310627	6.334502499	3.49E-11	7.039310627	4.6993	3.97E-15	ECM_GLYCOPROTEINS	1.111264954	1.497948764
COL10A1	9.639965331	6.53605465	6.25E-86	9.639965331	5.402659322	4.07E-37	COLLAGENS	1.474890564	1.784300056
COL11A1	8.63662892	7.216588393	6.26E-18	8.63662892	3.937052542	3.25E-26	COLLAGENS	1.196774494	2.193678857
COL17A1	8.589133275	7.609714255	3.79E-08	8.589133275	5.95710339	6.13E-12	COLLAGENS	1.128706412	1.441830486



COL1A1	15.6819561	14.60099167	4.03E-16	15.6819561	13.11496102	6.72E-25	COLLAGENS	1.074033631	1.195730287
COL1A2	15.33991185	14.3746144	4.94E-17	15.33991185	14.19507627	8.07E-10	COLLAGENS	1.067152928	1.080650188
COL24A1	6.400852091	5.194934608	1.22E-43	6.400852091	4.852837288	8.09E-20	COLLAGENS	1.232133333	1.318991697
COL28A1	6.814599826	5.440382605	8.64E-42	6.814599826	6.16759322	0.014323458	COLLAGENS	1.252595694	1.104904228
COL3A1	15.35310087	14.10683089	9.19E-23	15.35310087	13.16751695	1.27E-21	COLLAGENS	1.088345142	1.165982997
COL5A1	12.73341794	11.68922889	3.43E-23	12.73341794	11.09924068	2.45E-15	COLLAGENS	1.089329164	1.147233249
COL5A2	12.07339077	11.40793507	3.70E-12	12.07339077	10.38746949	1.56E-16	COLLAGENS	1.058332704	1.162303367
COL6A3	14.10555906	12.4519153	1.42E-44	14.10555906	13.17073898	4.26E-08	BASEMENT_MEMBRANES	1.132802362	1.070977041
COL6A3	14.10555906	12.4519153	1.42E-44	14.10555906	13.17073898	4.26E-08	COLLAGENS	1.132802362	1.070977041
COL9A2	8.976551045	8.737339028	0.010108377	8.976551045	7.855925424	9.54E-07	COLLAGENS	1.027378132	1.142647182
COMP	8.963234843	7.08737953	6.36E-30	8.963234843	6.497016949	2.78E-13	ECM_GLYCOPROTEINS	1.264675442	1.379592344
CRELD2	10.67204808	10.36259582	6.48E-18	10.67204808	9.756508475	2.29E-14	ECM_GLYCOPROTEINS	1.029862427	1.093838858
CRLF1	9.252050174	6.917476241	2.32E-142	9.252050174	7.502684746	3.96E-06	SECRETED_FACTORS	1.337489259	1.233165259
CST1	6.996181882	4.863208286	7.57E-34	6.996181882	1.573347458	2.38E-28	ECM_REGULATORS	1.438593922	4.446685853
CST2	5.005652265	3.491917704	5.71E-35	5.005652265	3.155718644	1.92E-09	ECM_REGULATORS	1.433496631	1.586216273
CST4	2.511594774	2.116840844	0.000322177	2.511594774	0.19489661	4.02E-13	ECM_REGULATORS	1.186482574	12.88680584
CSTB	13.12585784	12.62397843	1.45E-19	13.12585784	12.86257966	0.04338464	ECM_REGULATORS	1.039756041	1.020468536
CSTL1	0.852194425	0.539763865	9.06E-14	0.852194425	0.082801695	2.52E-06	ECM_REGULATORS	1.578828224	10.29199252
CTHRC1	10.32879547	8.906081078	1.29E-38	10.32879547	6.903474576	1.76E-36	ECM_GLYCOPROTEINS	1.1597464	1.496173464
CTSA	13.15958031	12.798058	7.07E-19	13.15958031	12.58433729	1.02E-10	ECM_REGULATORS	1.028248216	1.04571103
CTSK	10.83321341	10.28276675	8.02E-10	10.83321341	10.12259661	5.65E-05	ECM_REGULATORS	1.053530988	1.070201039
CXCL10	9.284108188	8.267030059	2.27E-18	9.284108188	8.647608475	0.009759792	SECRETED_FACTORS	1.123028237	1.073604132
CXCL13	8.705944599	6.042532066	2.96E-77	8.705944599	5.421954237	2.44E-20	SECRETED_FACTORS	1.440777559	1.605683895
CXCL9	10.56689251	8.780968916	1.82E-44	10.56689251	9.821430508	0.007066611	SECRETED_FACTORS	1.203385709	1.075901571
ECM1	10.37943258	10.00734346	1.72E-05	10.37943258	9.675513559	0.000750012	ECM_GLYCOPROTEINS	1.037181608	1.072752626
EGF	7.34174547	5.35711905	4.21E-58	7.34174547	5.913491525	1.83E-08	SECRETED_FACTORS	1.370465245	1.241524646
EGLN3	9.967910453	9.514325809	9.01E-06	9.967910453	7.926094915	5.60E-16	ECM_REGULATORS	1.047673861	1.257606748
EPYC	3.026194599	2.527657405	4.03E-05	3.026194599	0.858572881	3.65E-11	PROTEOGLYCANS	1.197232898	3.524679925
EYS	5.352576481	4.18147638	1.37E-81	5.352576481	4.084064407	1.39E-08	ECM_GLYCOPROTEINS	1.280068568	1.310600409
FGB	5.894201742	2.873140865	3.60E-51	5.894201742	2.491511864	1.46E-07	ECM_GLYCOPROTEINS	2.051483731	2.365712894
FGF19	2.094317944	1.779890069	0.005757324	2.094317944	0.086684746	1.68E-08	SECRETED_FACTORS	1.176655784	24.16016712
FGL1	6.417988153	2.661060758	2.18E-126	6.417988153	2.872713559	2.11E-12	ECM_GLYCOPROTEINS	2.411815714	2.234120465
FNDC1	9.255183275	8.057008489	6.92E-19	9.255183275	7.543559322	9.72E-12	ECM_GLYCOPROTEINS	1.148712117	1.22689872
GREM1	9.412007491	7.803377768	3.55E-26	9.412007491	5.534950847	5.70E-27	ECM_AFFILIATED	1.206145309	1.700468125
HABP2	7.927193554	4.248317993	6.39E-104	7.927193554	6.662459322	0.000659886	ECM_REGULATORS	1.865960497	1.189829937
HAPLN3	8.891849826	8.457367485	1.76E-08	8.891849826	7.872386441	2.07E-10	PROTEOGLYCANS	1.051373237	1.129498646
HPSE	8.395077352	7.687341837	2.24E-26	8.395077352	8.063440678	0.008636253	ECM_REGULATORS	1.092065051	1.041128432
HTRA3	10.59483031	9.087765894	4.68E-47	10.59483031	9.970138983	0.000913911	ECM_REGULATORS	1.165834424	1.062656231
IBSP	3.83315993	3.191351938	2.44E-08	3.83315993	1.325101695	1.41E-13	ECM_GLYCOPROTEINS	1.201108497	2.892728871
IGFBP3	12.77350436	12.34110359	2.30E-06	12.77350436	10.98132203	7.36E-16	ECM_GLYCOPROTEINS	1.035037447	1.163202783
IGFBPL1	4.897288328	3.014307923	6.85E-76	4.897288328	3.627474576	5.73E-07	ECM_GLYCOPROTEINS	1.62468084	1.350054487
KAZALD1	7.843300348	7.408597309	1.53E-08	7.843300348	7.289110169	0.000226166	ECM_REGULATORS	1.058675485	1.076029881
LAMB3	13.21871568	10.50950965	7.47E-112	13.21871568	12.65810508	0.004757765	BASEMENT_MEMBRANES	1.257786149	1.044288667
LAMB3	13.21871568	10.50950965	7.47E-112	13.21871568	12.65810508	0.004757765	ECM_GLYCOPROTEINS	1.257786149	1.044288667
LGI2	7.865033624	6.633540331	1.03E-50	7.865033624	5.990388136	2.44E-16	ECM_GLYCOPROTEINS	1.185646462	1.312942241
LMAN1	12.61828815	12.35524882	3.09E-13	12.61828815	12.12246271	4.02E-06	ECM_AFFILIATED	1.021289683	1.040901379

LOXL1	9.530434495	9.17058456	2.73E-05	9.530434495	8.644011864	7.94E-09	ECM_REGULATORS	1.039239585	1.102547595
MEP1A	3.116994774	2.603808457	5.53E-05	3.116994774	2.22670678	7.15E-05	ECM_REGULATORS	1.197090656	1.399822735
MEPE	1.644044077	0.96349417	2.69E-25	1.644044077	0.800840678	0.000299754	ECM_GLYCOPROTEINS	1.706335262	2.052897813
MFAP2	9.8171223	8.982083524	1.33E-12	9.8171223	8.560520339	3.45E-12	ECM_GLYCOPROTEINS	1.092967158	1.146790371
MMP1	9.346113763	6.655851201	4.78E-56	9.346113763	5.255598305	1.57E-24	ECM_REGULATORS	1.404195118	1.778315849
MMP10	5.364680314	4.403483631	1.57E-10	5.364680314	3.274566102	3.78E-09	ECM_REGULATORS	1.218280971	1.638287378
MMP11	10.25023467	9.902623033	0.004714791	10.25023467	5.693869492	1.11E-36	ECM_REGULATORS	1.035102986	1.800222974
MMP12	8.371388153	5.288873839	3.27E-81	8.371388153	4.774123729	1.23E-21	ECM_REGULATORS	1.582829995	1.753492081
MMP13	6.980947213	4.027926599	1.93E-68	6.980947213	2.404969492	6.67E-24	ECM_REGULATORS	1.73313665	2.902717576
MMP14	13.08398066	12.88654952	0.008714024	13.08398066	12.22577458	7.53E-10	ECM_REGULATORS	1.015320714	1.070196459
MMP15	11.38420157	10.79933345	7.00E-19	11.38420157	10.61801017	9.65E-07	ECM_REGULATORS	1.054157797	1.072159603
MMP17	7.08890331	6.563556188	1.78E-07	7.08890331	5.245347458	6.51E-15	ECM_REGULATORS	1.080040013	1.351464963
MMP7	10.23692892	8.028083566	1.23E-35	10.23692892	9.245591525	0.001139171	ECM_REGULATORS	1.275139806	1.107222712
MMP8	2.907500871	1.844659915	8.93E-28	2.907500871	2.022523729	0.000642026	ECM_REGULATORS	1.576171764	1.437560821
MMP9	10.63465418	9.186752173	1.50E-32	10.63465418	8.634183051	1.08E-14	ECM_REGULATORS	1.157607605	1.231691999
MUC13	6.978524042	4.715810945	1.69E-30	6.978524042	3.868523729	2.66E-09	ECM_AFFILIATED	1.479814209	1.803924321
MUC16	8.577284146	5.006450731	1.74E-84	8.577284146	6.194062712	3.47E-07	ECM_AFFILIATED	1.713246491	1.38475901
MUC20	10.88399268	8.842053604	2.42E-73	10.88399268	9.301166102	5.47E-11	ECM_AFFILIATED	1.230934936	1.170175069
MUC21	9.306322648	2.022117619	0	9.306322648	7.5981	0.000102819	ECM_AFFILIATED	4.602265744	1.224822343
MUC22	3.45166777	0.777409738	1.189e-319	3.45166777	2.673716949	0.008153389	ECM_AFFILIATED	4.439959521	1.290962295
MUC3A	8.787510279	6.385170582	1.99E-55	8.787510279	6.213061017	3.47E-12	ECM_AFFILIATED	1.376237356	1.414360853
MUC4	11.03745767	6.23558142	1.29E-198	11.03745767	9.481749153	7.35E-06	ECM_AFFILIATED	1.770076745	1.164074
MUC5AC	7.14116324	2.897735045	6.61E-126	7.14116324	5.402264407	0.004306179	ECM_AFFILIATED	2.464394822	1.321883326
MUC5B	11.57477108	5.629958548	5.55E-208	11.57477108	9.071264407	1.38E-06	ECM_AFFILIATED	2.055924743	1.275982108
MXRA5	11.52951516	10.94950214	1.59E-07	11.52951516	10.36780339	1.36E-08	ECM_GLYCOPROTEINS	1.052971634	1.112049942
OVGP1	6.652351916	6.354716658	3.31E-05	6.652351916	5.599425424	1.68E-09	ECM_AFFILIATED	1.046836905	1.188041882
P4HA1	11.6889507	11.05711718	8.91E-51	11.6889507	10.97171186	5.90E-11	ECM_REGULATORS	1.057142699	1.065371643
P4HA3	7.281101394	6.291833294	3.96E-32	7.281101394	5.333608475	8.40E-23	ECM_REGULATORS	1.157230501	1.365136085
PAPLN	9.518667944	9.165869525	3.41E-06	9.518667944	9.10520678	0.005643014	ECM_GLYCOPROTEINS	1.038490447	1.045409311
PAPLN	9.518667944	9.165869525	3.41E-06	9.518667944	9.10520678	0.005643014	BASEMENT_MEMBRANES	1.038490447	1.045409311
PCOLCE	11.0133331	10.53977435	1.17E-09	11.0133331	10.67757797	0.029833938	ECM_GLYCOPROTEINS	1.044930635	1.031444878
PLAT	11.03202143	10.73300273	0.000841737	11.03202143	10.45898475	0.015789123	ECM_REGULATORS	1.027859743	1.05478894
PLAU	11.60701829	10.42690117	2.77E-39	11.60701829	9.921516949	4.90E-13	ECM_REGULATORS	1.113180043	1.169883431
PLOD2	11.30051063	11.10990963	0.014903702	11.30051063	9.97949661	7.16E-12	ECM_REGULATORS	1.017155945	1.132372811
PLXNA3	10.91470401	10.72869754	9.29E-05	10.91470401	10.08320339	1.44E-09	ECM_AFFILIATED	1.017337283	1.082463934
PLXNB3	8.855291463	8.257915569	1.43E-07	8.855291463	6.314579661	1.29E-18	ECM_AFFILIATED	1.072339792	1.402356442
PODNL1	7.933080662	6.498366151	8.01E-52	7.933080662	6.008613559	1.02E-15	PROTEOGLYCANS	1.220780805	1.320284719
POSTN	12.40337927	10.65579905	9.98E-31	12.40337927	10.94893051	1.52E-11	ECM_GLYCOPROTEINS	1.164002738	1.132839345
PRSS1	2.587647038	2.036197918	5.67E-05	2.587647038	0.859279661	2.59E-06	ECM_REGULATORS	1.270822947	3.011414276
PRSS2	4.882862021	2.997010112	9.46E-34	4.882862021	2.269169492	2.20E-08	ECM_REGULATORS	1.629244426	2.151827812
PXDN	11.67322056	11.2170192	6.52E-09	11.67322056	11.13572712	0.00115538	ECM_GLYCOPROTEINS	1.040670462	1.048267476
SDC1	14.15729843	12.22606245	3.77E-68	14.15729843	13.52462712	2.33E-07	ECM_AFFILIATED	1.157960586	1.046779206
SEMA3A	8.497528397	6.75711843	1.74E-69	8.497528397	7.798659322	0.004310548	ECM_AFFILIATED	1.257566888	1.089614002
SEMA4B	12.38422683	11.75074548	7.05E-33	12.38422683	11.02136102	4.51E-18	ECM_AFFILIATED	1.053909886	1.123656762
SEMA4C	10.98127491	10.75306554	1.08E-08	10.98127491	10.15887288	2.03E-12	ECM_AFFILIATED	1.021222727	1.080954063
SEMA4D	10.6511507	10.41271202	1.18E-06	10.6511507	10.36877797	0.008306744	ECM_AFFILIATED	1.022898806	1.027232981

<b>SEMA7A</b>	8.862530314	8.435009856	3.92E-09	8.862530314	8.313266102	0.000756518	ECM_AFFILIATED	1.05068405	1.066070808
<b>SERPINB4</b>	2.874089024	2.46078551	0.009576698	2.874089024	1.176555932	1.92E-05	ECM_REGULATORS	1.167955928	2.442798464
<b>SERPINF1</b>	11.7852716	11.2102417	4.88E-10	11.7852716	11.41286441	0.029084951	ECM_REGULATORS	1.05129505	1.032630476
<b>SERPINH1</b>	13.05448188	12.6377388	3.83E-12	13.05448188	12.06749492	1.45E-14	ECM_REGULATORS	1.032976079	1.081788886
<b>SPP1</b>	12.71463206	11.89340338	1.19E-09	12.71463206	8.47020339	2.22E-31	ECM_GLYCOPROTEINS	1.069049089	1.501101151
<b>SRPX2</b>	9.109969686	7.532673305	6.73E-58	9.109969686	7.412852542	2.75E-15	ECM_GLYCOPROTEINS	1.209393972	1.22894252
<b>ST14</b>	13.08375679	11.56402765	1.00E-41	13.08375679	11.8177322	3.87E-18	ECM_REGULATORS	1.131418671	1.107129233
<b>SULF1</b>	11.70801376	10.9295462	2.66E-13	11.70801376	9.709867797	4.30E-19	ECM_REGULATORS	1.071225973	1.205785085
<b>THBS2</b>	11.89290052	11.05818659	5.06E-17	11.89290052	9.532767797	2.39E-24	ECM_GLYCOPROTEINS	1.075483799	1.247581057
<b>TIMP1</b>	13.65900174	13.02316839	7.13E-17	13.65900174	12.24449831	4.53E-18	ECM_REGULATORS	1.048823246	1.115521551
<b>TNC</b>	12.4145378	11.73852488	3.88E-11	12.4145378	11.63503559	0.001687767	ECM_GLYCOPROTEINS	1.057589257	1.066996117
<b>TNFAIP6</b>	7.036201742	6.401114212	5.69E-09	7.036201742	6.654264407	0.033903126	ECM_GLYCOPROTEINS	1.099215154	1.057397379
<b>VCAN</b>	12.39823589	11.59335711	3.94E-15	12.39823589	11.20094746	6.05E-10	PROTEOGLYCANS	1.06942586	1.10689171
<b>WISP1</b>	8.288399477	7.190848115	1.05E-28	8.288399477	6.434661017	4.96E-20	ECM_GLYCOPROTEINS	1.152631699	1.288086421
<b>WNT1</b>	0.908371603	0.686474853	1.05E-07	0.908371603	0.610986441	0.039426808	SECRETED_FACTORS	1.3232409	1.486729561
<b>WNT10A</b>	6.541629791	5.866096775	1.66E-08	6.541629791	5.545247458	6.12E-05	SECRETED_FACTORS	1.11515886	1.179682213
<b>WNT10B</b>	4.371216551	4.158620673	0.00933399	4.371216551	3.514228814	9.03E-06	SECRETED_FACTORS	1.051121729	1.243862248
<b>WNT16</b>	3.005846864	2.471660619	3.12E-11	3.005846864	2.36250678	0.016777571	SECRETED_FACTORS	1.216124431	1.272312482
<b>WNT3</b>	8.03024338	6.901643086	3.42E-53	8.03024338	6.367279661	3.70E-25	SECRETED_FACTORS	1.16352632	1.261173344
<b>WNT5B</b>	7.792643031	7.450610945	4.48E-05	7.792643031	7.360567797	0.028023667	SECRETED_FACTORS	1.045906583	1.058701346
<b>WNT8B</b>	2.032936934	1.776435163	0.000154055	2.032936934	1.357922034	0.000144436	SECRETED_FACTORS	1.144391293	1.497094003
<b>VWA1</b>	12.18069303	11.50385576	5.45E-28	12.18069303	11.51391356	1.25E-06	ECM_GLYCOPROTEINS	1.058835688	1.057910759
<b>VWDE</b>	5.687624913	4.057989055	1.99E-41	5.687624913	4.637950847	0.000191182	ECM_GLYCOPROTEINS	1.401587051	1.226322809
<b>ZPLD1</b>	2.920290244	2.231629151	6.39E-14	2.920290244	0.722018644	1.39E-15	ECM_GLYCOPROTEINS	1.308591189	4.044618886

Lung Squamous Cell Carcinoma (LUAD)

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
A2ML1	8.646600547	4.481047987	3.88E-115	8.646600547	2.402734	8.99E-29	ECM_REGULATORS	1.929593384	3.598650765
ADAM12	9.935634489	8.348884303	2.76E-44	9.935634489	7.253842	2.82E-25	ECM_REGULATORS	1.190055357	1.369706493
ADAM17	11.59019434	10.0946329	1.89E-202	11.59019434	11.251512	0.001617325	ECM_REGULATORS	1.148154119	1.030101052
ADAM20	2.160307482	1.720521954	2.67E-19	2.160307482	1.830912	0.041962926	ECM_REGULATORS	1.255611692	1.179907872
ADAM23	9.8278	6.705551778	6.90E-152	9.8278	6.908458	6.61E-12	ECM_REGULATORS	1.465621372	1.422575052
ADAM28	8.67137135	7.91717527	1.44E-18	8.67137135	7.974716	0.000318447	ECM_REGULATORS	1.095260753	1.087358014
ADAMDEC1	7.879349453	5.936989589	1.08E-57	7.879349453	5.746754	1.80E-12	ECM_REGULATORS	1.327162417	1.371095657
ADAMTS12	9.588904745	7.851592077	1.96E-63	9.588904745	8.539328	8.99E-07	ECM_REGULATORS	1.22126884	1.12291093
ADAMTS14	7.340764781	6.635430198	3.71E-14	7.340764781	5.62757	2.48E-15	ECM_REGULATORS	1.106298245	1.304428871
ADAMTS17	7.221102007	6.498386492	6.70E-24	7.221102007	6.727954	0.020029304	ECM_REGULATORS	1.111214609	1.073298362
ADAMTS18	4.100185401	3.840909856	0.011868452	4.100185401	2.623042	6.14E-06	ECM_REGULATORS	1.067503679	1.563141346
ADAMTS20	4.408810401	1.624489002	4.31E-169	4.408810401	0.568792	3.28E-24	ECM_REGULATORS	2.713967529	7.751182157
ADAMTSL5	6.943487591	6.177318889	1.09E-17	6.943487591	5.74168	3.49E-08	ECM_REGULATORS	1.124029327	1.209312883
AGRN	13.54030584	13.26079766	1.16E-06	13.54030584	13.21525	0.033302707	BASEMENT_MEMBRANES	1.02107778	1.024597025
AGRN	13.54030584	13.26079766	1.16E-06	13.54030584	13.21525	0.033302707	ECM_GLYCOPROTEINS	1.02107778	1.024597025
ANXA10	3.382676095	2.250012568	7.10E-14	3.382676095	1.124568	7.47E-08	ECM_AFFILIATED	1.5034032	3.007978259
ANXA8	11.19839507	5.352544442	4.82E-199	11.19839507	9.918826	0.000108298	ECM_AFFILIATED	2.092162932	1.129004085
ARTN	8.079219891	5.385328083	6.18E-179	8.079219891	3.81504	1.08E-36	SECRETED_FACTORS	1.500227983	2.11772875
ASTL	2.460307299	1.92820977	6.55E-15	2.460307299	1.79538	0.001139337	ECM_REGULATORS	1.275954171	1.370354632
BMP1	10.78444763	10.64880498	0.005389351	10.78444763	10.46007	0.012991429	ECM_REGULATORS	1.012737829	1.031011038
BMP7	10.44977956	7.991588991	1.01E-49	10.44977956	7.370448	2.62E-19	SECRETED_FACTORS	1.307597222	1.417794354
C1QTNF6	9.893833577	9.358422232	1.69E-18	9.893833577	8.017602	2.90E-25	ECM_AFFILIATED	1.057211711	1.234014058
CCL26	5.073585219	2.992511927	1.42E-130	5.073585219	2.649104	9.91E-19	SECRETED_FACTORS	1.6954269	1.915208017
CCL7	3.754296533	2.122847421	7.44E-76	3.754296533	2.688636	4.29E-05	SECRETED_FACTORS	1.768519252	1.39635731
CD109	11.66947117	9.685100993	2.12E-114	11.66947117	10.475196	2.81E-09	ECM_REGULATORS	1.20488895	1.114009816
CILP	7.870831204	6.874250443	2.33E-13	7.870831204	7.15791	0.021615322	ECM_GLYCOPROTEINS	1.144973008	1.099599074
CILP2	7.506387774	6.195282958	8.13E-32	7.506387774	5.045382	1.78E-19	ECM_GLYCOPROTEINS	1.211629529	1.487773924
CLEC2A	0.643396533	0.358863609	2.43E-08	0.643396533	0.043618	0.00644145	ECM_AFFILIATED	1.792872045	14.75071147
CLEC2L	4.673113321	2.600579466	3.43E-74	4.673113321	1.674224	7.01E-12	ECM_AFFILIATED	1.796950788	2.791211523
COCH	8.27134854	6.334502499	2.90E-69	8.27134854	5.474966	1.03E-14	ECM_GLYCOPROTEINS	1.305761351	1.510757974
COL10A1	9.31967135	6.53605465	4.69E-67	9.31967135	6.248992	4.67E-22	COLLAGENS	1.425886387	1.491387947
COL11A1	9.538168613	7.216588393	1.78E-43	9.538168613	4.435304	1.38E-33	COLLAGENS	1.321700517	2.150510678
COL16A1	11.03827135	10.44124955	1.24E-11	11.03827135	10.446768	0.004580538	COLLAGENS	1.057179153	1.056620703
COL17A1	11.5984708	7.609714255	9.34E-104	11.5984708	6.779046	7.83E-27	COLLAGENS	1.524166403	1.71092965
COL19A1	3.078537956	2.565919327	5.57E-07	3.078537956	2.354778	0.040761256	COLLAGENS	1.199779714	1.307358042
COL1A1	16.03940182	14.60099167	4.07E-26	16.03940182	14.015766	1.48E-13	COLLAGENS	1.098514552	1.14438282
COL1A2	15.58816661	14.3746144	9.01E-25	15.58816661	14.877108	0.001906581	COLLAGENS	1.084423287	1.047795486
COL24A1	6.535150912	5.194934608	3.44E-51	6.535150912	5.455178	1.20E-09	COLLAGENS	1.257985212	1.197972076
COL27A1	9.998671168	9.600441399	5.14E-07	9.998671168	9.153602	3.48E-05	COLLAGENS	1.04148036	1.092320943
COL2A1	4.731746533	4.216924634	0.000611432	4.731746533	2.873426	1.36E-06	COLLAGENS	1.122084681	1.646726428
COL3A1	15.86105219	14.10683089	2.39E-41	15.86105219	14.058312	8.50E-12	COLLAGENS	1.124352614	1.128233047

COL4A5	11.00072245	9.233981548	1.55E-64	11.00072245	10.011668	2.46E-05	COLLAGENS	1.191330347	1.098790176
COL4A5	11.00072245	9.233981548	1.55E-64	11.00072245	10.011668	2.46E-05	BASEMENT_MEMBRANES	1.191330347	1.098790176
COL4A6	9.060562409	6.084243043	8.62E-111	9.060562409	7.154312	5.60E-08	BASEMENT_MEMBRANES	1.489184825	1.26644776
COL4A6	9.060562409	6.084243043	8.62E-111	9.060562409	7.154312	5.60E-08	COLLAGENS	1.489184825	1.26644776
COL5A1	13.01577391	11.68922889	9.39E-35	13.01577391	11.810644	1.46E-07	COLLAGENS	1.11348439	1.102037612
COL5A2	12.5918188	11.40793507	1.64E-33	12.5918188	11.118954	1.10E-11	COLLAGENS	1.103777215	1.13246433
COL7A1	12.0410292	9.192337939	6.19E-131	12.0410292	7.040214	2.94E-40	COLLAGENS	1.309898448	1.710321476
CRELD2	10.64335967	10.36259582	8.62E-15	10.64335967	10.004696	4.03E-10	ECM_GLYCOPROTEINS	1.027093969	1.06383639
CRISPLD1	8.665226095	8.102181612	3.73E-08	8.665226095	7.840674	0.000131764	ECM_GLYCOPROTEINS	1.069492948	1.10516342
CRNN	2.342176642	1.271700427	1.01E-16	2.342176642	0.924678	0.000714504	SECRETED_FACTORS	1.841767599	2.532964602
CST1	7.341701825	4.863208286	2.75E-43	7.341701825	2.290916	1.38E-23	ECM_REGULATORS	1.509641659	3.204701449
CST11	0.338239234	0.206593668	4.18E-06	0.338239234	0	0.0028002	ECM_REGULATORS	1.637219751	Inf
CST2	4.080574453	3.491917704	2.38E-06	4.080574453	3.254296	0.007377502	ECM_REGULATORS	1.168576925	1.253903902
CST4	2.492257299	2.116840844	0.000793745	2.492257299	0.094936	2.51E-13	ECM_REGULATORS	1.177347511	26.2519729
CSTA	11.59151241	7.376330763	1.38E-217	11.59151241	9.299326	8.50E-14	ECM_REGULATORS	1.57144694	1.246489521
CSTB	13.73386807	12.62397843	1.58E-83	13.73386807	13.07272	1.74E-05	ECM_REGULATORS	1.087919164	1.050574637
CSTL1	1.054700547	0.539763865	1.00E-33	1.054700547	0.0424	3.28E-10	ECM_REGULATORS	1.954003621	24.87501291
CTHRC1	10.68446241	8.906081078	3.84E-57	10.68446241	7.69606	8.52E-34	ECM_GLYCOPROTEINS	1.199681691	1.388302899
CTSK	11.14175584	10.28276675	8.75E-21	11.14175584	10.655276	0.015407042	ECM_REGULATORS	1.083536767	1.04565624
CTSV	9.500482117	7.28437811	2.23E-81	9.500482117	5.84878	1.55E-38	ECM_REGULATORS	1.304226932	1.624352791
CXCL10	9.611589781	8.267030059	1.89E-29	9.611589781	9.058222	0.048275056	SECRETED_FACTORS	1.162641204	1.06109011
CXCL13	9.079429197	6.042532066	3.70E-95	9.079429197	6.130736	9.74E-15	SECRETED_FACTORS	1.502586846	1.480968875
CXCL14	10.76109197	9.895338473	1.12E-07	10.76109197	7.702888	3.00E-16	SECRETED_FACTORS	1.087491044	1.397020438
CXCL6	7.429093248	4.310898089	4.68E-106	7.429093248	6.05043	0.000433487	SECRETED_FACTORS	1.723328433	1.227862028
DDX26B	8.40835	8.158415761	1.37E-05	8.40835	8.067562	0.013442348	ECM_GLYCOPROTEINS	1.030635144	1.042241758
DMP1	2.225825365	1.386894842	3.67E-34	2.225825365	0.640736	6.07E-16	ECM_GLYCOPROTEINS	1.604898437	3.473857197
DSPP	0.90179854	0.544958676	1.32E-15	0.90179854	0.10041	4.00E-09	ECM_GLYCOPROTEINS	1.654801694	8.981162635
EGLN3	11.0053438	9.514325809	5.89E-46	11.0053438	8.391256	3.01E-23	ECM_REGULATORS	1.156712942	1.311525211
EMILIN3	6.201634307	4.974561559	1.33E-27	6.201634307	4.257484	2.03E-07	ECM_GLYCOPROTEINS	1.246669527	1.456643009
EPYC	2.94842792	2.527657405	0.000663543	2.94842792	0.993914	7.35E-10	PROTEOGLYCANS	1.166466592	2.966481929
F12	7.722950365	7.239870699	1.17E-05	7.722950365	4.653612	2.47E-37	ECM_REGULATORS	1.066724902	1.659560437
FAM20B	11.70546496	11.28599471	1.33E-50	11.70546496	11.462064	0.009034253	ECM_REGULATORS	1.037167326	1.021235352
FBN2	8.654026825	7.214706321	1.33E-36	8.654026825	5.714504	1.28E-10	ECM_GLYCOPROTEINS	1.199498142	1.514396844
FGF11	9.319413869	7.581973561	4.79E-72	9.319413869	5.181768	9.32E-45	SECRETED_FACTORS	1.229154097	1.798500795
FGF12	7.214895985	6.297278665	1.87E-18	7.214895985	6.22049	0.000505748	SECRETED_FACTORS	1.145716486	1.159859751
FGF19	2.867705474	1.779890069	3.14E-20	2.867705474	0.319134	3.97E-08	SECRETED_FACTORS	1.611169995	8.985897693
FGF3	0.655310766	0.441621676	0.000522181	0.655310766	0.066276	0.026133206	SECRETED_FACTORS	1.483873644	9.887602849
FNDC1	9.342585949	8.057008489	1.36E-20	9.342585949	8.008618	1.52E-06	ECM_GLYCOPROTEINS	1.159560147	1.16656656
FNDC8	1.346417336	1.185251575	0.000270973	1.346417336	0.902056	0.002342554	ECM_GLYCOPROTEINS	1.135975994	1.492609479
GPC1	13.20194161	11.54649143	9.85E-132	13.20194161	10.789932	2.96E-26	ECM_AFFILIATED	1.143372573	1.223542614
GPC2	5.882286679	5.581202819	0.001243922	5.882286679	3.24719	2.59E-26	ECM_AFFILIATED	1.053946052	1.811500614
GREM1	10.09896624	7.803377768	1.65E-49	10.09896624	6.264874	3.18E-29	ECM_AFFILIATED	1.294178821	1.611998301
HAPLN3	9.618239234	8.457367485	9.39E-49	9.618239234	8.514438	1.15E-11	PROTEOGLYCANS	1.137261595	1.129638766
HPSE	8.708708759	7.687341837	2.44E-50	8.708708759	8.345318	0.015031287	ECM_REGULATORS	1.132863471	1.043544267
HRG	2.512062774	1.764826866	2.15E-06	2.512062774	0.461036	3.99E-11	ECM_REGULATORS	1.423404654	5.448734532
HTRA3	10.83117482	9.087765894	1.10E-59	10.83117482	10.447054	0.040750311	ECM_REGULATORS	1.191841311	1.036768338

IBSP	4.025513869	3.191351938	7.54E-13	4.025513869	1.25143	4.80E-24	ECM_GLYCOPROTEINS	1.261381993	3.216731154
IGFBP2	13.49237664	11.45141622	4.70E-87	13.49237664	11.0501	1.39E-16	ECM_GLYCOPROTEINS	1.178227774	1.22101851
IGFBP3	13.43426624	12.34110359	2.89E-31	13.43426624	11.424918	7.50E-16	ECM_GLYCOPROTEINS	1.088579003	1.175874194
IGFBP5	13.89259982	13.31700634	1.90E-08	13.89259982	13.174706	0.000860734	ECM_GLYCOPROTEINS	1.043222438	1.05449031
ITIH6	3.166669891	2.714329856	0.000482406	3.166669891	0.795968	4.04E-21	ECM_REGULATORS	1.166648882	3.978388441
KCP	6.424840511	5.963599477	9.35E-06	6.424840511	4.890912	3.54E-10	ECM_GLYCOPROTEINS	1.077342725	1.313628319
LAMA1	8.62599635	7.364141068	6.39E-25	8.62599635	6.515078	2.02E-09	ECM_GLYCOPROTEINS	1.171351319	1.324005077
LAMA1	8.62599635	7.364141068	6.39E-25	8.62599635	6.515078	2.02E-09	BASEMENT_MEMBRANES	1.171351319	1.324005077
LAMA5	12.91348102	12.29558791	8.90E-23	12.91348102	12.479082	0.008005131	BASEMENT_MEMBRANES	1.050253238	1.034810174
LAMA5	12.91348102	12.29558791	8.90E-23	12.91348102	12.479082	0.008005131	ECM_GLYCOPROTEINS	1.050253238	1.034810174
LAMB3	13.66504434	10.50950965	1.73E-143	13.66504434	12.649714	1.43E-06	BASEMENT_MEMBRANES	1.300255178	1.080265083
LAMB3	13.66504434	10.50950965	1.73E-143	13.66504434	12.649714	1.43E-06	ECM_GLYCOPROTEINS	1.300255178	1.080265083
LAMC2	13.53287135	9.777165179	2.84E-106	13.53287135	12.485904	4.39E-05	BASEMENT_MEMBRANES	1.38413038	1.083851946
LAMC2	13.53287135	9.777165179	2.84E-106	13.53287135	12.485904	4.39E-05	ECM_GLYCOPROTEINS	1.38413038	1.083851946
LGALS7	6.138242883	2.521967037	1.53E-141	6.138242883	1.662822	6.19E-21	ECM_AFFILIATED	2.43391083	3.691461193
LGI2	7.271919526	6.633540331	2.13E-14	7.271919526	6.685724	0.011557024	ECM_GLYCOPROTEINS	1.096235066	1.087678691
LMAN1	12.60747974	12.35524882	4.30E-12	12.60747974	12.224118	7.03E-06	ECM_AFFILIATED	1.02041488	1.031361097
LOXL1	10.02550931	9.17058456	2.25E-22	10.02550931	9.165316	1.10E-07	ECM_REGULATORS	1.093224673	1.093853099
LOXL2	10.49420985	10.1490868	8.36E-06	10.49420985	9.479968	4.40E-07	ECM_REGULATORS	1.034005331	1.106987898
MFAP1	10.44435566	10.38744451	0.008601781	10.44435566	10.228088	0.000835841	ECM_GLYCOPROTEINS	1.00547884	1.021144485
MFAP2	10.76625566	8.982083524	2.94E-49	10.76625566	9.0782	2.74E-18	ECM_GLYCOPROTEINS	1.198636778	1.185946075
MMP1	11.06820146	6.655851201	7.54E-139	11.06820146	6.488356	2.61E-28	ECM_REGULATORS	1.66292802	1.705856069
MMP10	8.922525	4.403483631	1.16E-178	8.922525	4.411314	3.00E-18	ECM_REGULATORS	2.026242346	2.022645633
MMP11	11.24844361	9.902623033	8.78E-27	11.24844361	6.389998	1.59E-41	ECM_REGULATORS	1.135905464	1.760320365
MMP12	10.36185438	5.288873839	1.58E-202	10.36185438	5.287452	8.00E-41	ECM_REGULATORS	1.959179722	1.959706562
MMP13	7.822345803	4.027926599	2.21E-105	7.822345803	3.633838	9.08E-16	ECM_REGULATORS	1.942027892	2.152640212
MMP14	13.77446004	12.88654952	1.18E-30	13.77446004	12.540866	2.52E-17	ECM_REGULATORS	1.068902115	1.098365937
MMP20	1.20065146	0.621304132	1.78E-27	1.20065146	0.07673	3.00E-06	ECM_REGULATORS	1.93246978	15.64774482
MMP27	1.014506569	0.790822424	0.000173395	1.014506569	0.583164	0.023556332	ECM_REGULATORS	1.282850029	1.739659117
MMP3	6.709239964	4.47830094	2.70E-38	6.709239964	2.545218	6.30E-22	ECM_REGULATORS	1.498166393	2.636017804
MMP7	10.10642318	8.028083566	1.43E-30	10.10642318	9.45505	0.020689762	ECM_REGULATORS	1.258883654	1.068891563
MMP8	3.559166606	1.844659915	4.70E-66	3.559166606	2.581158	0.000465321	ECM_REGULATORS	1.929443242	1.378903037
MMP9	11.20170766	9.186752173	1.56E-58	11.20170766	9.37426	5.33E-12	ECM_REGULATORS	1.219332736	1.194943138
MUC20	10.1498531	8.842053604	7.33E-30	10.1498531	9.471318	0.022205436	ECM_AFFILIATED	1.14790676	1.071641043
MUCL1	3.799071168	2.585652963	2.49E-15	3.799071168	1.998758	1.44E-06	ECM_AFFILIATED	1.469288888	1.900715929
MXRA5	12.10781825	10.94950214	1.69E-24	12.10781825	10.90326	5.89E-08	ECM_GLYCOPROTEINS	1.105787103	1.110476889
NELL1	5.049544708	3.183604624	9.32E-40	5.049544708	3.582784	0.002912466	ECM_GLYCOPROTEINS	1.586109239	1.40939133
NELL2	9.280001642	7.784212985	2.64E-35	9.280001642	8.542114	0.005751805	ECM_GLYCOPROTEINS	1.192156697	1.086382322
NTN1	9.740960584	8.373452995	2.99E-38	9.740960584	9.244002	0.029825567	ECM_GLYCOPROTEINS	1.163314655	1.053760112
NTN1	9.740960584	8.373452995	2.99E-38	9.740960584	9.244002	0.029825567	BASEMENT_MEMBRANES	1.163314655	1.053760112
NTN3	2.346226277	2.122345115	0.002222824	2.346226277	1.454284	2.89E-05	ECM_GLYCOPROTEINS	1.105487633	1.61332056
NTN3	2.346226277	2.122345115	0.002222824	2.346226277	1.454284	2.89E-05	BASEMENT_MEMBRANES	1.105487633	1.61332056
OGFOD1	10.59556606	10.4677929	6.54E-09	10.59556606	10.249286	4.13E-08	ECM_REGULATORS	1.012206313	1.033785774
OTOG	1.545167701	1.321034351	0.007569108	1.545167701	0.082344	6.90E-09	ECM_GLYCOPROTEINS	1.169665043	18.76478797
P4HA1	11.94876113	11.05711718	4.85E-94	11.94876113	11.087436	9.81E-13	ECM_REGULATORS	1.080639821	1.077684789
P4HA3	6.910732117	6.291833294	4.17E-13	6.910732117	6.022376	5.78E-06	ECM_REGULATORS	1.09836542	1.147509242



PI3	10.01309726	5.739437608	1.91E-99	10.01309726	6.41362	3.61E-13	ECM_REGULATORS	1.744612965	1.561223968
PLAT	11.46175347	10.73300273	1.36E-15	11.46175347	10.873996	0.008476133	ECM_REGULATORS	1.067898122	1.054051654
PLAU	12.33468102	10.42690117	3.23E-95	12.33468102	10.292114	2.73E-20	ECM_REGULATORS	1.182967098	1.198459425
PLOD1	12.8454146	12.50815465	4.02E-15	12.8454146	12.052784	1.73E-10	ECM_REGULATORS	1.026963206	1.065763279
PLOD2	11.87069945	11.10990963	1.42E-21	11.87069945	10.217694	1.83E-21	ECM_REGULATORS	1.068478489	1.16177872
PLXNA1	12.58902974	11.44635716	2.85E-91	12.58902974	11.957206	2.17E-06	ECM_AFFILIATED	1.099828493	1.052840416
PLXNB3	9.293770438	8.257915569	2.56E-19	9.293770438	6.656892	1.07E-29	ECM_AFFILIATED	1.125437813	1.396112546
PODNL1	7.758440146	6.498366151	2.61E-39	7.758440146	6.501072	9.55E-10	PROTEOGLYCANS	1.193906278	1.193409356
POSTN	12.73912372	10.65579905	5.97E-41	12.73912372	11.457848	2.50E-07	ECM_GLYCOPROTEINS	1.195510882	1.111825163
PRSS1	3.104124453	2.036197918	2.03E-14	3.104124453	1.168906	8.35E-08	ECM_REGULATORS	1.52447089	2.655580904
PRSS2	5.38712646	2.997010112	3.48E-51	5.38712646	3.314658	7.61E-06	ECM_REGULATORS	1.797500261	1.625243527
PXDNL	4.993241788	4.497337266	4.58E-08	4.993241788	4.575702	0.029967658	ECM_GLYCOPROTEINS	1.110266251	1.091251526
SDC1	14.79921186	12.22606245	1.15E-112	14.79921186	13.461974	4.47E-16	ECM_AFFILIATED	1.210464279	1.099334456
SEMA3F	11.50432518	10.60397557	1.53E-28	11.50432518	10.607284	5.99E-12	ECM_AFFILIATED	1.084906798	1.084568414
SEMA4B	13.13464562	11.75074548	4.95E-139	13.13464562	11.28714	6.24E-23	ECM_AFFILIATED	1.117771264	1.163682352
SEMA4C	11.07020438	10.75306554	6.45E-15	11.07020438	10.403734	1.12E-08	ECM_AFFILIATED	1.029492877	1.06406069
SEMA4F	9.450489599	8.601750593	1.22E-79	9.450489599	8.960048	3.64E-05	ECM_AFFILIATED	1.098670497	1.054736492
SERPINB11	4.250412774	1.213348105	2.05E-156	4.250412774	2.500328	0.00012945	ECM_REGULATORS	3.503044804	1.699942077
SERPINB12	3.030064964	0.6472548	2.00E-199	3.030064964	0.3851	1.28E-10	ECM_REGULATORS	4.681409801	7.868254904
SERPINB13	9.081497993	2.003399968	0	9.081497993	2.821118	6.89E-26	ECM_REGULATORS	4.533042896	3.219113129
SERPINB2	7.883534672	3.769084495	4.03E-140	7.883534672	5.37378	2.01E-08	ECM_REGULATORS	2.091631186	1.467037108
SERPINB3	9.617741058	2.953548105	2.16E-252	9.617741058	5.719938	3.86E-13	ECM_REGULATORS	3.256334658	1.681441487
SERPINB4	7.508500547	2.46078551	2.21E-197	7.508500547	2.282844	1.61E-21	ECM_REGULATORS	3.051261688	3.289099276
SERPINB5	11.44991825	5.779809963	4.03E-149	11.44991825	4.77262	6.36E-47	ECM_REGULATORS	1.981019847	2.399084412
SERPINB7	6.524130657	3.028885542	3.06E-138	6.524130657	2.85953	1.88E-17	ECM_REGULATORS	2.153970682	2.281539504
SERPINE2	11.08869818	10.80134688	0.005466568	11.08869818	8.999292	9.82E-19	ECM_REGULATORS	1.026603284	1.232174506
SERPINH1	13.35134416	12.6377388	2.91E-31	13.35134416	12.423648	1.66E-13	ECM_REGULATORS	1.056466221	1.0746718
SERPINI1	8.411880109	8.004189151	3.44E-08	8.411880109	7.758726	0.001055219	ECM_REGULATORS	1.050934698	1.084183165
SPOCK3	5.51814854	3.721253049	2.77E-29	5.51814854	4.162816	0.000720377	PROTEOGLYCANS	1.482873771	1.325580698
SPP1	13.54572299	11.89340338	5.53E-33	13.54572299	9.487244	1.73E-28	ECM_GLYCOPROTEINS	1.1389274	1.427782715
SRPX2	9.098075547	7.532673305	3.55E-55	9.098075547	8.074988	3.15E-08	ECM_GLYCOPROTEINS	1.207814965	1.126698337
ST14	12.98226661	11.56402765	3.65E-35	12.98226661	11.851808	6.59E-19	ECM_REGULATORS	1.122642301	1.095382798
SULF1	12.15466004	10.9295462	2.23E-29	12.15466004	10.294112	3.74E-17	ECM_REGULATORS	1.112091921	1.180739051
TGM3	5.620668978	3.957551628	1.54E-31	5.620668978	4.407694	0.006882783	ECM_REGULATORS	1.420238952	1.275194916
TGM4	2.787642701	2.008516903	1.16E-13	2.787642701	2.08783	0.005902149	ECM_REGULATORS	1.387910998	1.33518663
TGM5	4.813358577	2.888203759	1.23E-61	4.813358577	1.353268	1.01E-20	ECM_REGULATORS	1.666557826	3.556840609
TGM6	0.798854927	0.259174704	3.54E-36	0.798854927	0.013962	0.000206453	ECM_REGULATORS	3.082302847	57.21636778
THBS2	12.15564288	11.05818659	4.30E-27	12.15564288	10.365326	9.17E-14	ECM_GLYCOPROTEINS	1.099243785	1.172721715
TLL2	5.185689416	4.938260406	0.001887203	5.185689416	2.881134	3.68E-20	ECM_REGULATORS	1.050104488	1.799877901
TMPRSS15	1.564481387	0.974273241	2.36E-14	1.564481387	0.342546	1.58E-06	ECM_REGULATORS	1.605793243	4.56721546
TNC	13.31201953	11.73852488	1.35E-50	13.31201953	12.211386	7.66E-05	ECM_GLYCOPROTEINS	1.134045347	1.090131745
TSKU	11.7310615	10.79481481	3.26E-34	11.7310615	9.818012	3.00E-30	ECM_GLYCOPROTEINS	1.086731148	1.194851004
VCAN	12.36162664	11.59335711	2.17E-13	12.36162664	11.758308	0.002691562	PROTEOGLYCANS	1.066268082	1.051309988
WISP1	8.824367883	7.190848115	2.09E-58	8.824367883	7.348638	2.98E-11	ECM_GLYCOPROTEINS	1.227166496	1.200816789
WNT10A	7.135885401	5.866096775	5.16E-25	7.135885401	5.978018	7.09E-05	SECRETED_FACTORS	1.21646227	1.193687507
WNT10B	5.424705109	4.158620673	4.33E-50	5.424705109	3.643778	1.21E-10	SECRETED_FACTORS	1.304448166	1.488758401

<b>WNT16</b>	4.082458577	2.471660619	2.44E-83	4.082458577	2.480258	3.01E-07	SECRETED_FACTORS	1.651706769	1.645981417
<b>WNT3</b>	7.473125547	6.901643086	2.21E-14	7.473125547	6.459614	1.21E-09	SECRETED_FACTORS	1.082803827	1.156899708
<b>WNT5A</b>	11.1535219	8.931545478	4.00E-107	11.1535219	9.820158	6.40E-08	SECRETED_FACTORS	1.248778493	1.135778253
<b>WNT5B</b>	8.44740438	7.450610945	4.82E-31	8.44740438	7.477104	9.76E-06	SECRETED_FACTORS	1.133786805	1.129769544
<b>WNT7B</b>	10.98979416	6.848191223	5.09E-149	10.98979416	9.483946	6.04E-10	SECRETED_FACTORS	1.604773261	1.158778652
<b>VWA9</b>	10.83498193	10.620444	5.59E-28	10.83498193	10.373318	5.93E-12	ECM_GLYCOPROTEINS	1.020200467	1.044504944
<b>VWDE</b>	6.359392518	4.057989055	1.44E-76	6.359392518	4.935474	6.46E-06	ECM_GLYCOPROTEINS	1.567129046	1.288506943
<b>XCL1</b>	6.157655474	3.996191618	2.88E-133	6.157655474	5.536504	0.000305562	SECRETED_FACTORS	1.540880935	1.112192003
<b>ZFP91</b>	11.88391241	11.64715431	1.34E-17	11.88391241	11.69422	0.001915432	SECRETED_FACTORS	1.020327549	1.01622104
<b>ZP3</b>	8.355566971	7.77258977	4.58E-19	8.355566971	6.171748	3.03E-27	ECM_GLYCOPROTEINS	1.075004242	1.353841241
<b>ZP4</b>	0.917193066	0.347357779	1.17E-34	0.917193066	0	0.000579378	ECM_GLYCOPROTEINS	2.640485175	Inf
<b>ZPLD1</b>	2.606076277	2.231629151	5.86E-05	2.606076277	1.097334	5.00E-09	ECM_GLYCOPROTEINS	1.167790928	2.374916185

**Mesothelioma (MESO)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
ADAM15	12.71979885	12.1620167	1.20E-07	12.71979885	0.83795	3.56E-108	ECM_REGULATORS	1.045862636	15.17966329
ADAM19	9.450868966	9.009334678	0.010872967	9.450868966	4.969286364	4.37E-122	ECM_REGULATORS	1.049008534	1.901856378
ADAM33	8.609277011	6.07140516	1.88E-24	8.609277011	2.576570455	2.26E-11	ECM_REGULATORS	1.418004034	3.341370695
ADAM8	9.494810345	8.89876033	0.001737574	9.494810345	1.253972727	2.87E-35	ECM_REGULATORS	1.066981242	7.57178377
ADAM9	12.64007816	11.80909606	2.64E-09	12.64007816	4.8283375	1.43E-29	ECM_REGULATORS	1.070367968	2.617894495
ADAMTS17	7.317745977	6.470935793	1.27E-06	7.317745977	1.917002273	4.62E-100	ECM_REGULATORS	1.130863636	3.817286021
ADAMTS2	11.86501264	9.426232784	5.02E-29	11.86501264	7.958089773	9.91E-06	ECM_REGULATORS	1.258722643	1.49093727
ADAMTS3	9.860437931	5.811481354	4.18E-91	9.860437931	2.823254545	0.014977928	ECM_REGULATORS	1.69671678	3.492578431
ADAMTS4	9.555248276	9.125549438	0.034234549	9.555248276	0	0.012047317	ECM_REGULATORS	1.047087448	Inf
ADAMTS7	9.998666667	7.996091801	2.33E-35	9.998666667	1.104234091	5.26E-107	ECM_REGULATORS	1.250444206	9.054843306
ADAMTSL1	8.364321839	6.790864128	3.23E-13	8.364321839	1.164730682	2.32E-23	ECM_REGULATORS	1.231702134	7.181335539
ADAMTSL4	11.30261839	8.780658761	6.16E-40	11.30261839	0.429810227	7.70E-14	ECM_REGULATORS	1.287217588	26.29676465
AEBP1	14.00148276	12.78698765	7.08E-09	14.00148276	11.84688977	7.85E-153	ECM_GLYCOPROTEINS	1.094978985	1.181869928
AGRN	14.64297931	13.31695538	1.15E-21	14.64297931	5.316565909	1.63E-38	ECM_GLYCOPROTEINS	1.099574107	2.754217583
AGRN	14.64297931	13.31695538	1.15E-21	14.64297931	5.316565909	1.63E-38	BASEMENT_MEMBRANES	1.099574107	2.754217583
ANGPTL1	7.123282759	5.966124566	1.51E-05	7.123282759	0.705911364	6.83E-19	SECRETED_FACTORS	1.193954749	10.09090252
ANGPTL2	10.76874598	10.36563627	0.03009494	10.76874598	10.47743068	3.14E-71	SECRETED_FACTORS	1.038889046	1.027804078
ANGPTL7	3.823086207	2.6243956	2.35E-05	3.823086207	0.365079545	1.94E-93	SECRETED_FACTORS	1.456749206	10.47192661
ANXA1	13.83164138	12.57241633	1.79E-08	13.83164138	0.224142045	1.25E-43	ECM_AFFILIATED	1.10015776	61.70926722
ANXA11	13.52005057	12.81794992	2.47E-10	13.52005057	13.39536591	2.90E-05	ECM_AFFILIATED	1.054774801	1.009308045
ANXA2	16.29526437	14.47993711	1.55E-28	16.29526437	0.084206818	2.68E-109	ECM_AFFILIATED	1.125368449	193.5147856
ANXA3	12.32706667	9.217102772	6.43E-28	12.32706667	3.499820455	0.00044701	ECM_AFFILIATED	1.337412305	3.522199732
ANXA4	12.81105517	11.97875792	3.85E-08	12.81105517	4.551970455	4.37E-86	ECM_AFFILIATED	1.069481098	2.814397699
ANXA5	13.88917816	13.35678082	1.65E-06	13.88917816	0.076728409	8.46E-67	ECM_AFFILIATED	1.039859705	181.0174136
ANXA8	13.834	5.723261602	8.13E-65	13.834	8.312913636	1.41E-71	ECM_AFFILIATED	2.417153183	1.664157792
ANXA8L1	12.90776552	5.756162687	2.29E-66	12.90776552	11.30016023	1.95E-87	ECM_AFFILIATED	2.242425417	1.142263938
ANXA9	8.140203448	7.45056614	0.001683406	8.140203448	0.125560227	4.13E-104	ECM_AFFILIATED	1.092561732	64.83106653
BDNF	8.071434483	5.172303512	1.87E-38	8.071434483	2.182115909	0.000229552	SECRETED_FACTORS	1.560510605	3.698902725
BGN	15.54251954	13.17120109	7.92E-29	15.54251954	5.793145455	7.14E-49	PROTEOGLYCANS	1.180038133	2.682915467
BMP1	12.32157241	10.58460187	2.37E-51	12.32157241	9.4256625	1.30E-85	ECM_REGULATORS	1.164103531	1.30723675
BMP3	4.499948276	3.732376391	0.027513127	4.499948276	2.530544318	4.35E-64	SECRETED_FACTORS	1.205652326	1.778253099
C1QA	13.32276437	11.41637434	7.63E-25	13.32276437	9.521038636	2.63E-25	ECM_AFFILIATED	1.166987344	1.399297375
C1QB	13.32633678	11.58387838	7.86E-19	13.32633678	11.57160795	1.51E-29	ECM_AFFILIATED	1.150420985	1.151640881
C1QC	13.15924598	11.42031566	4.33E-20	13.15924598	6.343613636	7.00E-23	ECM_AFFILIATED	1.152266397	2.074408489
C1QTNF1	11.90692874	9.803957695	6.78E-31	11.90692874	1.214376136	4.59E-49	ECM_AFFILIATED	1.214502256	9.804975888
CCBE1	6.332402299	4.706428443	2.11E-09	6.332402299	1.862502273	5.34E-07	SECRETED_FACTORS	1.345479353	3.399943394
CCL1	0.976931034	0.637295008	0.002297226	0.976931034	0.614193182	8.17E-149	SECRETED_FACTORS	1.532933763	1.590592445
CCL11	5.831643678	4.038724862	5.62E-09	5.831643678	0.786252273	1.29E-43	SECRETED_FACTORS	1.443931904	7.417013445
CCL13	5.074767816	4.445460024	0.026335718	5.074767816	2.6249875	6.48E-86	SECRETED_FACTORS	1.141561906	1.933254088
CCL14	7.567655172	6.746117157	0.004187745	7.567655172	3.622790909	5.85E-32	SECRETED_FACTORS	1.121779388	2.088901999
CCL2	12.26028506	9.299596113	6.79E-44	12.26028506	11.58556477	6.97E-05	SECRETED_FACTORS	1.318367476	1.058238014

CCL21	8.128348276	6.936625582	0.002239826	8.128348276	5.462685227	1.07E-06	SECRETED_FACTORS	1.171801502	1.487976689
CCL3	8.845716092	7.421448589	1.29E-14	8.845716092	6.340792045	2.23E-76	SECRETED_FACTORS	1.191912332	1.395049077
CCL4L2	7.513467816	6.497752723	1.32E-06	7.513467816	7.208472727	3.80E-82	SECRETED_FACTORS	1.156317905	1.042310639
CCL5	10.42524598	9.371459816	1.38E-06	10.42524598	9.316761364	9.06E-33	SECRETED_FACTORS	1.112446319	1.118977461
CD209	7.3384	6.724245077	0.003663645	7.3384	4.470389773	0.005624516	ECM_AFFILIATED	1.091334405	1.641557084
CILP	9.709352874	6.909578285	1.24E-17	9.709352874	0.229773864	9.06E-46	ECM_GLYCOPROTEINS	1.405201949	42.256124
CILP2	9.42836092	6.291889828	5.25E-31	9.42836092	3.601670455	1.67E-48	ECM_GLYCOPROTEINS	1.49849428	2.617774457
CLEC12B	2.289172414	1.709411602	0.001166542	2.289172414	1.214805682	4.66E-15	ECM_AFFILIATED	1.339158112	1.884393898
CLEC4A	6.9565	6.127433465	9.38E-10	6.9565	0.693794318	2.85E-24	ECM_AFFILIATED	1.135304045	10.02674686
COL10A1	8.368842529	6.885885606	0.000183149	8.368842529	4.158871591	7.79E-26	COLLAGENS	1.21536183	2.01228683
COL11A1	11.38752299	7.376679647	8.49E-23	11.38752299	4.648151136	5.67E-100	COLLAGENS	1.543719334	2.449903769
COL11A2	6.44463908	5.977837806	0.04487258	6.44463908	3.157593182	4.22E-109	COLLAGENS	1.078088648	2.040997275
COL12A1	12.97835977	11.23249695	2.39E-10	12.97835977	6.947123864	2.76E-112	COLLAGENS	1.155429628	1.868163002
COL13A1	7.132173563	6.351330091	9.34E-05	7.132173563	4.500606818	0.001629923	COLLAGENS	1.122941724	1.584713762
COL14A1	11.99126322	9.908622593	4.46E-19	11.99126322	0.121203409	1.68E-63	COLLAGENS	1.210184676	98.93503251
COL15A1	11.0362977	10.43055367	0.010617429	11.0362977	7.035285227	3.76E-72	COLLAGENS	1.058074005	1.568706505
COL15A1	11.0362977	10.43055367	0.010617429	11.0362977	7.035285227	3.76E-72	BASEMENT_MEMBRANES	1.058074005	1.568706505
COL16A1	11.69893563	10.40352338	6.03E-10	11.69893563	2.086480682	1.74E-107	COLLAGENS	1.124516686	5.607018428
COL18A1	14.02407701	12.86523985	3.82E-13	14.02407701	4.852423864	4.68E-70	COLLAGENS	1.090075053	2.890117889
COL18A1	14.02407701	12.86523985	3.82E-13	14.02407701	4.852423864	4.68E-70	BASEMENT_MEMBRANES	1.090075053	2.890117889
COL1A1	18.11817471	14.62013411	5.34E-27	18.11817471	5.928756818	2.31E-145	COLLAGENS	1.239261869	3.0559821
COL1A2	17.09245057	14.38451312	4.69E-22	17.09245057	7.728581818	7.33E-73	COLLAGENS	1.188253675	2.211589523
COL21A1	6.592688506	6.098003966	0.036863303	6.592688506	5.823370455	8.86E-59	COLLAGENS	1.081122371	1.132108726
COL3A1	17.24964253	14.15126581	2.51E-23	17.24964253	4.069794318	3.19E-21	COLLAGENS	1.218946966	4.238455602
COL4A2	13.92467816	13.39872327	0.007080911	13.92467816	5.313918182	5.05E-11	COLLAGENS	1.039254105	2.620416364
COL4A2	13.92467816	13.39872327	0.007080911	13.92467816	5.313918182	5.05E-11	BASEMENT_MEMBRANES	1.039254105	2.620416364
COL4A5	11.00118851	9.299093587	9.38E-12	11.00118851	6.1588875	8.94E-25	COLLAGENS	1.183038799	1.786229819
COL4A5	11.00118851	9.299093587	9.38E-12	11.00118851	6.1588875	8.94E-25	BASEMENT_MEMBRANES	1.183038799	1.786229819
COL4A6	8.278477011	6.169130328	6.40E-11	8.278477011	4.933819318	2.11E-13	COLLAGENS	1.341919618	1.677904373
COL4A6	8.278477011	6.169130328	6.40E-11	8.278477011	4.933819318	2.11E-13	BASEMENT_MEMBRANES	1.341919618	1.677904373
COL5A1	14.43998736	11.71228787	2.38E-26	14.43998736	12.67630568	8.01E-47	COLLAGENS	1.232892115	1.139132151
COL5A2	13.6010931	11.41711507	1.21E-20	13.6010931	6.819744318	2.56E-95	COLLAGENS	1.191289833	1.994369945
COL5A3	10.30551494	9.395735251	3.53E-06	10.30551494	5.696418182	3.91E-39	COLLAGENS	1.096829005	1.80912191
COL6A1	15.76334943	13.11534005	4.42E-50	15.76334943	14.33658523	5.87E-75	BASEMENT_MEMBRANES	1.201901695	1.09951911
COL6A1	15.76334943	13.11534005	4.42E-50	15.76334943	14.33658523	5.87E-75	COLLAGENS	1.201901695	1.09951911
COL6A2	15.75881034	13.17268439	7.11E-34	15.75881034	11.82396818	4.08E-92	COLLAGENS	1.1963249	1.332785246
COL6A2	15.75881034	13.17268439	7.11E-34	15.75881034	11.82396818	4.08E-92	BASEMENT_MEMBRANES	1.1963249	1.332785246
COL6A3	14.27122414	12.53777336	2.69E-09	14.27122414	12.88514318	2.37E-55	COLLAGENS	1.138258264	1.107572026
COL6A3	14.27122414	12.53777336	2.69E-09	14.27122414	12.88514318	2.37E-55	BASEMENT_MEMBRANES	1.138258264	1.107572026
COL8A1	11.92575287	9.753171152	2.99E-14	11.92575287	10.4492	3.67E-49	COLLAGENS	1.222756444	1.141307744
COMP	9.762024138	7.228315785	4.43E-10	9.762024138	8.0084125	2.41E-95	ECM_GLYCOPROTEINS	1.35052541	1.218971193
CRELD1	10.73991609	10.24479204	1.97E-07	10.73991609	6.756992045	3.03E-67	ECM_GLYCOPROTEINS	1.048329342	1.589452233
CRIM1	13.66764713	11.35632036	1.01E-55	13.66764713	0.195836364	7.59E-190	ECM_GLYCOPROTEINS	1.203527788	69.79116071
CRISPLD1	9.351166667	8.091082074	3.19E-07	9.351166667	6.08975	2.12E-11	ECM_GLYCOPROTEINS	1.155737463	1.535558384
CRLF1	7.6224	7.088001401	0.01984563	7.6224	6.768884091	2.11E-92	SECRETED_FACTORS	1.075394821	1.126094035
CSF1	12.28516092	10.54940643	5.40E-38	12.28516092	1.706475	2.73E-05	SECRETED_FACTORS	1.164535749	7.199144974

CST7	7.777955172	7.028249852	0.000407107	7.777955172	5.448784091	1.44E-105	ECM_REGULATORS	1.106670272	1.427466209
CTGF	12.65613793	11.95918097	0.000838164	12.65613793	0.140071591	3.56E-19	ECM_GLYCOPROTEINS	1.058277984	90.35478107
CTHRC1	10.84582989	9.016966032	2.02E-11	10.84582989	7.952111364	1.29E-88	ECM_GLYCOPROTEINS	1.202824747	1.363893108
CTSF	11.42059425	10.89944704	0.001726588	11.42059425	4.0361375	6.26E-103	ECM_REGULATORS	1.047814097	2.829585031
CTSK	11.2007908	10.30976458	4.69E-05	11.2007908	1.001173864	4.17E-16	ECM_REGULATORS	1.086425467	11.18765802
CTSL	12.86513793	11.83880246	1.28E-14	12.86513793	0.687885227	2.70E-22	ECM_REGULATORS	1.086692508	18.70244835
CTSZ	13.53369425	12.82270553	1.95E-09	13.53369425	6.65405	5.59E-139	ECM_REGULATORS	1.055447637	2.0339033
CXCL6	6.151895402	4.550276884	5.00E-06	6.151895402	0.363067045	1.38E-50	SECRETED_FACTORS	1.35198265	16.94424068
CYR61	13.13840805	11.49950018	2.23E-14	13.13840805	10.858025	4.72E-27	ECM_GLYCOPROTEINS	1.142519922	1.210018217
DCN	14.29005747	11.96756789	2.19E-16	14.29005747	8.570943182	4.79E-125	PROTEOGLYCANS	1.194065294	1.667267787
DDX26B	9.298098851	8.155626825	2.01E-16	9.298098851	1.648797727	3.52E-93	ECM_GLYCOPROTEINS	1.140083902	5.639320516
DPT	8.139389655	6.713021369	6.08E-05	8.139389655	7.7318875	1.24E-70	ECM_GLYCOPROTEINS	1.212477841	1.052704098
EBI3	7.126397701	6.0419632	1.51E-10	7.126397701	1.269811364	9.26E-07	SECRETED_FACTORS	1.179483798	5.612170363
ECM2	9.315887356	8.08043748	5.10E-11	9.315887356	7.371207955	4.82E-100	ECM_GLYCOPROTEINS	1.152893934	1.263820993
EDIL3	10.83222414	9.241769376	3.95E-11	10.83222414	9.7754875	7.38E-14	ECM_GLYCOPROTEINS	1.172094184	1.108100659
EFEMP1	15.31970575	10.41146057	2.00E-83	15.31970575	7.888103409	3.94E-144	ECM_GLYCOPROTEINS	1.47142715	1.942127905
EFEMP2	12.85555402	10.38304768	3.93E-55	12.85555402	3.0062375	1.25E-81	ECM_GLYCOPROTEINS	1.238129152	4.276293547
EGFLAM	8.055070115	7.591237816	0.014406632	8.055070115	6.383727273	0.01132365	ECM_GLYCOPROTEINS	1.06110101	1.261813008
EGLN1	11.41983908	11.21746294	0.012667456	11.41983908	7.600998864	2.19E-90	ECM_REGULATORS	1.018041168	1.502412944
EGLN2	12.07905747	11.41629852	1.71E-20	12.07905747	9.702230682	1.64E-23	ECM_REGULATORS	1.058053751	1.244977353
ELN	11.20726782	9.982076421	3.58E-07	11.20726782	10.14081705	5.99E-71	ECM_GLYCOPROTEINS	1.122739132	1.105164186
EPYC	5.831597701	2.525688802	2.20E-28	5.831597701	1.913973864	5.18E-73	PROTEOGLYCANS	2.308913789	3.046853362
F13A1	11.38796437	9.151014296	1.38E-23	11.38796437	10.69367727	7.65E-47	ECM_REGULATORS	1.24444832	1.064925009
F7	4.745442529	3.88701325	0.007710956	4.745442529	0.098905682	3.29E-81	ECM_REGULATORS	1.220845473	47.97947339
FAM20A	10.9235092	8.5285566	4.73E-25	10.9235092	5.639498864	2.30E-40	ECM_REGULATORS	1.2808157	1.936964518
FAM20B	11.75446437	11.29748278	2.19E-11	11.75446437	1.810592045	7.04E-14	ECM_REGULATORS	1.040449859	6.492055677
FAM20C	11.55032069	10.6391928	2.78E-10	11.55032069	2.013855682	1.46E-114	ECM_REGULATORS	1.085638818	5.735426224
FBLN1	13.02265287	11.54336361	5.27E-09	13.02265287	5.178522727	1.61E-08	ECM_GLYCOPROTEINS	1.128150625	2.514742825
FBLN5	10.33012069	9.870161158	0.013194561	10.33012069	8.263398864	3.70E-130	ECM_GLYCOPROTEINS	1.046601015	1.250105539
FCN1	7.720111494	6.375246369	1.27E-08	7.720111494	4.508817045	2.34E-74	ECM_AFFILIATED	1.210951083	1.712225494
FGF1	7.973445977	7.14805734	0.002752051	7.973445977	4.498592045	7.26E-85	SECRETED_FACTORS	1.115470344	1.77243144
FGF2	9.142921839	7.775464473	8.54E-10	9.142921839	0.318039773	3.31E-93	SECRETED_FACTORS	1.175868255	28.74773102
FGL2	10.1488069	9.575530002	0.001971321	10.1488069	0.014686364	2.81E-35	ECM_GLYCOPROTEINS	1.059868947	691.0360623
FMOD	12.42850575	10.31520491	5.77E-17	12.42850575	6.794548864	2.10E-36	PROTEOGLYCANS	1.204872405	1.829187779
FN1	16.35575517	15.10008369	6.85E-07	16.35575517	3.210990909	5.44E-27	ECM_GLYCOPROTEINS	1.083156591	5.093678442
FNDC1	11.02737931	8.123307567	2.42E-18	11.02737931	0.142098864	1.70E-83	ECM_GLYCOPROTEINS	1.357498681	77.6035714
FRAS1	11.67537471	8.373052279	4.29E-35	11.67537471	8.400604545	9.67E-97	ECM_GLYCOPROTEINS	1.394398879	1.389825536
GAS6	13.57455517	11.69314578	1.55E-34	13.57455517	7.357082955	2.46E-184	ECM_GLYCOPROTEINS	1.160898481	1.845100192
GPC6	9.426437931	8.393325049	1.56E-05	9.426437931	2.636935227	6.17E-11	ECM_AFFILIATED	1.123087439	3.574770375
HAPLN3	9.346833333	8.507890854	1.20E-05	9.346833333	8.379421591	1.21E-05	PROTEOGLYCANS	1.098607574	1.115450897
HSPG2	13.77207356	13.33531073	0.005933004	13.77207356	3.715952273	6.69E-54	PROTEOGLYCANS	1.032752355	3.706203027
HSPG2	13.77207356	13.33531073	0.005933004	13.77207356	3.715952273	6.69E-54	BASEMENT_MEMBRANES	1.032752355	3.706203027
HTRA1	13.81848851	11.76162011	4.73E-25	13.81848851	4.689118182	1.65E-72	ECM_REGULATORS	1.174879683	2.9469269
HTRA4	5.671916092	3.38490515	1.70E-28	5.671916092	1.250257955	1.17E-62	ECM_REGULATORS	1.675649934	4.536596685
IBSP	4.599722989	3.259130357	1.93E-06	4.599722989	3.661544318	3.75E-09	ECM_GLYCOPROTEINS	1.411334462	1.256224857
IGFBP2	12.52543563	11.58790818	0.000202354	12.52543563	3.308595455	1.84E-36	ECM_GLYCOPROTEINS	1.080905668	3.785725938

IGFBP4	14.73150575	13.41177671	3.66E-12	14.73150575	12.13285568	2.39E-167	ECM_GLYCOPROTEINS	1.098400761	1.214182888
IGFBP5	14.08746782	13.2982347	0.001315802	14.08746782	0.933857955	2.22E-85	ECM_GLYCOPROTEINS	1.059348713	15.08523619
ITIH3	5.991982759	5.105618104	0.00363797	5.991982759	0.263054545	3.96E-46	ECM_REGULATORS	1.173605749	22.77848021
ITLN1	14.82886667	2.786346429	4.49E-293	14.82886667	10.01529432	4.30E-77	ECM_AFFILIATED	5.321975227	1.480622156
ITLN2	9.374154023	1.992356215	2.40E-184	9.374154023	2.077495455	3.55E-85	ECM_AFFILIATED	4.705059241	4.512238042
LAMA4	12.55048506	10.84677364	8.63E-21	12.55048506	4.796089773	2.04E-16	ECM_GLYCOPROTEINS	1.157070801	2.616816126
LAMA4	12.55048506	10.84677364	8.63E-21	12.55048506	4.796089773	2.04E-16	BASEMENT_MEMBRANES	1.157070801	2.616816126
LAMA5	13.50438276	12.33664821	1.76E-14	13.50438276	5.271243182	1.29E-63	BASEMENT_MEMBRANES	1.094655738	2.561897126
LAMA5	13.50438276	12.33664821	1.76E-14	13.50438276	5.271243182	1.29E-63	ECM_GLYCOPROTEINS	1.094655738	2.561897126
LAMB1	13.53588966	12.18350672	2.15E-14	13.53588966	6.506263636	1.60E-48	ECM_GLYCOPROTEINS	1.111001124	2.080439775
LAMB1	13.53588966	12.18350672	2.15E-14	13.53588966	6.506263636	1.60E-48	BASEMENT_MEMBRANES	1.111001124	2.080439775
LAMB2	13.49917586	12.68118825	9.29E-10	13.49917586	6.199969318	1.06E-42	BASEMENT_MEMBRANES	1.064504019	2.177297204
LAMB2	13.49917586	12.68118825	9.29E-10	13.49917586	6.199969318	1.06E-42	ECM_GLYCOPROTEINS	1.064504019	2.177297204
LAMC1	13.68217931	12.75481789	5.24E-11	13.68217931	1.8319125	1.98E-90	ECM_GLYCOPROTEINS	1.072706755	7.468795213
LAMC1	13.68217931	12.75481789	5.24E-11	13.68217931	1.8319125	1.98E-90	BASEMENT_MEMBRANES	1.072706755	7.468795213
LAMC2	11.86013908	10.1747368	6.32E-05	11.86013908	3.909002273	2.78E-39	ECM_GLYCOPROTEINS	1.165645787	3.034057863
LAMC2	11.86013908	10.1747368	6.32E-05	11.86013908	3.909002273	2.78E-39	BASEMENT_MEMBRANES	1.165645787	3.034057863
LGALS1	14.11412644	12.62419549	6.71E-24	14.11412644	9.332195455	1.17E-116	ECM_AFFILIATED	1.118021853	1.512412219
LGALS12	6.720454023	3.081854844	8.68E-48	6.720454023	0.125365909	8.96E-71	ECM_AFFILIATED	2.180652355	53.60671072
LOX	12.35414943	9.449353137	1.85E-38	12.35414943	1.688184091	1.35E-130	ECM_REGULATORS	1.307406893	7.318010809
LOXL1	11.35404023	9.147083573	1.45E-26	11.35404023	9.193948864	3.39E-151	ECM_REGULATORS	1.241274351	1.234947072
LOXL2	11.55769195	10.10354265	3.64E-15	11.55769195	1.558902273	7.57E-136	ECM_REGULATORS	1.143924696	7.413993909
LOXL4	8.863649425	7.786948204	1.68E-05	8.863649425	2.124920455	4.24E-207	ECM_REGULATORS	1.138269986	4.171285286
LTBP2	12.68084943	11.22602588	2.10E-12	12.68084943	6.822564773	7.59E-188	ECM_GLYCOPROTEINS	1.129593817	1.858663105
LTBP3	13.21348276	12.14308736	4.03E-16	13.21348276	9.146761364	2.53E-102	ECM_GLYCOPROTEINS	1.088148538	1.444607794
LTBP4	12.51565632	11.52975097	8.69E-10	12.51565632	1.134201136	1.97E-28	ECM_GLYCOPROTEINS	1.085509683	11.03477674
LUM	13.90188621	11.57994423	3.72E-12	13.90188621	10.18142727	2.77E-129	PROTEOGLYCANS	1.20051409	1.365416246
MATN2	11.84732069	10.27346922	7.09E-16	11.84732069	3.5017	1.74E-214	ECM_GLYCOPROTEINS	1.153195716	3.383305449
MFAP2	11.51305862	9.030276431	1.06E-17	11.51305862	1.199613636	4.29E-46	ECM_GLYCOPROTEINS	1.274939777	9.597305559
MFAP4	11.16551954	9.690583159	1.88E-08	11.16551954	5.583082955	1.16E-18	ECM_GLYCOPROTEINS	1.152203057	1.999884227
MFAP5	9.809078161	6.666390677	3.74E-19	9.809078161	7.282652273	2.10E-72	ECM_GLYCOPROTEINS	1.471422639	1.346910136
MGP	13.09517586	11.79634638	4.71E-06	13.09517586	9.700438636	4.87E-12	ECM_GLYCOPROTEINS	1.110104387	1.349957085
MMP14	14.65203678	12.86918534	1.56E-22	14.65203678	4.339971591	2.77E-66	ECM_REGULATORS	1.138536465	3.376067441
MMP15	11.65534713	10.81978352	2.77E-07	11.65534713	4.612923864	7.05E-103	ECM_REGULATORS	1.077225538	2.526672339
MMP16	7.988442529	6.777905624	1.41E-05	7.988442529	0.242132955	5.95E-79	ECM_REGULATORS	1.178600437	32.99196734
MMP19	9.386417241	7.922748925	1.65E-15	9.386417241	9.199939773	0.001024833	ECM_REGULATORS	1.184742484	1.020269423
MMP2	13.74835632	12.20003146	2.90E-13	13.74835632	11.88949318	2.24E-123	ECM_REGULATORS	1.126911546	1.156345028
MMP23B	8.9408	5.775458603	3.14E-63	8.9408	2.105089773	8.84E-05	ECM_REGULATORS	1.548067541	4.247229793
MMP24	11.48173793	6.957151529	1.13E-67	11.48173793	0.241529545	1.52E-119	ECM_REGULATORS	1.650350418	47.53761247
MMRN2	10.34814483	9.701514246	3.47E-05	10.34814483	4.095342045	2.55E-76	ECM_GLYCOPROTEINS	1.066652542	2.526808436
MUC12	6.228290805	5.014356679	0.000241394	6.228290805	3.365229545	6.76E-115	ECM_AFFILIATED	1.242091699	1.850777405
MUC16	9.814417241	5.366460468	2.95E-22	9.814417241	3.793965909	5.11E-12	ECM_AFFILIATED	1.828843667	2.586849085
MXRA5	13.37446552	10.98854985	1.62E-18	13.37446552	2.138310227	2.32E-22	ECM_GLYCOPROTEINS	1.217127437	6.254689028
NGLY1	10.21227471	9.973720018	0.000142784	10.21227471	7.918786364	5.30E-62	ECM_REGULATORS	1.023918327	1.289626244
NID2	9.585683908	9.147420373	0.033383755	9.585683908	7.775701136	5.06E-144	ECM_GLYCOPROTEINS	1.047911162	1.232774221
NID2	9.585683908	9.147420373	0.033383755	9.585683908	7.775701136	5.06E-144	BASEMENT_MEMBRANES	1.047911162	1.232774221



NPNT	12.00386552	10.22070788	7.51E-10	12.00386552	7.904952273	1.10E-14	BASEMENT_MEMBRANES	1.174465179	1.51852473
NPNT	12.00386552	10.22070788	7.51E-10	12.00386552	7.904952273	1.10E-14	ECM_GLYCOPROTEINS	1.174465179	1.51852473
NTN1	9.499257471	8.409457429	1.84E-05	9.499257471	9.140754545	1.38E-34	ECM_GLYCOPROTEINS	1.129592194	1.039220277
NTN1	9.499257471	8.409457429	1.84E-05	9.499257471	9.140754545	1.38E-34	BASEMENT_MEMBRANES	1.129592194	1.039220277
NTNG1	8.503358621	4.205837165	2.19E-41	8.503358621	2.505509091	1.48E-115	ECM_GLYCOPROTEINS	2.021799297	3.393864605
NTNG1	8.503358621	4.205837165	2.19E-41	8.503358621	2.505509091	1.48E-115	BASEMENT_MEMBRANES	2.021799297	3.393864605
OGFOD1	10.75006782	10.46929272	1.45E-07	10.75006782	2.750610227	4.89E-21	ECM_REGULATORS	1.026818917	3.908248326
OGN	10.37584138	6.087930929	1.94E-35	10.37584138	7.816123864	8.43E-22	PROTEOGLYCANS	1.704329681	1.327491933
OIT3	3.852302299	3.291471675	0.026687521	3.852302299	0.97745	6.62E-22	ECM_GLYCOPROTEINS	1.170389017	3.941175813
P4HA1	12.04572644	11.1256326	6.33E-18	12.04572644	11.69698409	9.18E-156	ECM_REGULATORS	1.082700362	1.029814723
P4HTM	10.83038621	10.31171631	0.000229574	10.83038621	9.048806818	8.07E-59	ECM_REGULATORS	1.050299085	1.196885559
PCOLCE	13.57034598	10.49021485	5.69E-63	13.57034598	0.029690909	0.00134824	ECM_GLYCOPROTEINS	1.293619451	457.0539061
PLAU	11.70922989	10.56399114	4.76E-07	11.70922989	11.31137727	5.73E-15	ECM_REGULATORS	1.108409665	1.035172782
PLOD1	12.85816782	12.48732833	0.000293399	12.85816782	11.82298409	4.19E-33	ECM_REGULATORS	1.029697264	1.087556891
PLOD2	13.60498276	11.12241915	1.63E-37	13.60498276	12.19945	4.93E-38	ECM_REGULATORS	1.223203565	1.115212797
PLXDC2	13.07348621	10.86537647	1.14E-37	13.07348621	0.061589773	2.40E-119	ECM_AFFILIATED	1.203224411	212.2671611
PLXNA1	12.09596322	11.50490271	1.83E-05	12.09596322	5.021021591	8.22E-18	ECM_AFFILIATED	1.051374663	2.409064171
PLXNA2	11.24911149	10.52806114	2.63E-07	11.24911149	3.247742045	2.87E-18	ECM_AFFILIATED	1.068488428	3.463671479
PODN	11.19254023	8.873205929	3.01E-22	11.19254023	8.389872727	1.45E-182	PROTEOGLYCANS	1.261386281	1.334053637
PODNL1	8.048456322	6.619169051	1.34E-09	8.048456322	4.977126136	2.30E-75	PROTEOGLYCANS	1.215931526	1.617089079
POMZP3	9.273391954	8.760404765	3.23E-07	9.273391954	1.451835227	3.05E-135	ECM_GLYCOPROTEINS	1.058557476	6.387358414
POSTN	12.90072414	10.78360275	1.59E-08	12.90072414	8.4119375	1.89E-79	ECM_GLYCOPROTEINS	1.196327835	1.533621016
PRG2	2.845818391	1.924254963	8.07E-06	2.845818391	0.027786364	5.15E-19	PROTEOGLYCANS	1.478919606	102.4178057
PRG4	13.71763908	4.920917463	2.07E-161	13.71763908	0.0715	2.05E-54	PROTEOGLYCANS	2.7876182	191.855092
PXDN	12.94000575	11.20015499	2.27E-19	12.94000575	0.502647727	3.58E-195	ECM_GLYCOPROTEINS	1.155341668	25.74368697
RSPO1	10.59541379	3.309434964	3.23E-137	10.59541379	1.812540909	9.86E-51	ECM_GLYCOPROTEINS	3.201577885	5.845613602
RSPO2	3.275208046	2.629827457	0.026511173	3.275208046	2.923955682	2.56E-08	ECM_GLYCOPROTEINS	1.245407959	1.120129168
RSPO4	5.333187356	4.21821029	0.000163598	5.333187356	1.403763636	3.21E-67	ECM_GLYCOPROTEINS	1.264324676	3.79920609
SBSPON	10.08631494	7.103059767	3.53E-37	10.08631494	8.265506818	2.85E-32	ECM_GLYCOPROTEINS	1.419995787	1.220289955
SEMA3B	12.44383678	9.540702269	1.95E-41	12.44383678	4.055819318	8.92E-50	ECM_AFFILIATED	1.304289394	3.068143772
SEMA3C	13.34428621	10.02105688	4.38E-33	13.34428621	0.316580682	1.87E-119	ECM_AFFILIATED	1.331624635	42.15129657
SEMA3D	7.090629885	6.29984337	0.004607781	7.090629885	1.392293182	3.55E-63	ECM_AFFILIATED	1.12552479	5.092770673
SEMA4C	11.23955517	10.76626554	2.03E-06	11.23955517	7.172706818	0.001276973	ECM_AFFILIATED	1.043960427	1.566989347
SEMA4D	10.94853908	10.46967319	5.50E-05	10.94853908	1.698551136	3.16E-103	ECM_AFFILIATED	1.04573838	6.445810695
SEMA4F	8.949625287	8.683718804	0.013778805	8.949625287	8.810028409	7.64E-97	ECM_AFFILIATED	1.030621268	1.015845225
SEMA5A	11.54457241	9.713686415	3.94E-17	11.54457241	6.311929545	1.41E-154	ECM_AFFILIATED	1.188485187	1.82900844
SEMA6D	8.458024138	7.753381778	0.002122948	8.458024138	2.064331818	1.30E-73	ECM_AFFILIATED	1.090881938	4.097221224
SERPINB1	12.05479195	11.57368539	0.002432743	12.05479195	6.3805125	6.64E-103	ECM_REGULATORS	1.041569003	1.889314057
SERPINB6	12.13586552	11.87827023	0.009026437	12.13586552	1.951163636	1.41E-21	ECM_REGULATORS	1.021686262	6.21980919
SERPINB7	7.31267931	3.192043903	2.89E-33	7.31267931	0.551915909	6.73E-05	ECM_REGULATORS	2.290908124	13.24962588
SERPINB8	9.453072414	8.783433268	2.86E-07	9.453072414	6.214178409	9.21E-13	ECM_REGULATORS	1.076238884	1.521210334
SERPINB9	10.92015747	9.2790309	5.37E-31	10.92015747	6.230551136	5.93E-26	ECM_REGULATORS	1.176864005	1.752679214
SERPINE1	12.62652414	10.72367076	2.38E-15	12.62652414	4.090814773	6.38E-53	ECM_REGULATORS	1.177444219	3.08655484
SERPINE2	11.42031609	10.72609572	0.005717899	11.42031609	8.017265909	2.67E-53	ECM_REGULATORS	1.06472256	1.424465176
SERPING1	14.91494138	12.87465213	6.11E-26	14.91494138	10.41882273	3.33E-87	ECM_REGULATORS	1.15847335	1.43153807
SERPINH1	14.72437011	12.62998523	3.13E-47	14.72437011	5.440107955	7.48E-80	ECM_REGULATORS	1.165826392	2.706631971

SLIT2	10.58404138	8.224777841	3.30E-24	10.58404138	3.686559091	6.52E-12	ECM_GLYCOPROTEINS	1.2868483	2.870981074
SLIT3	12.37143678	9.665665647	6.19E-28	12.37143678	1.751048864	0.001159739	ECM_GLYCOPROTEINS	1.279936347	7.06515794
SMOC2	11.02795057	9.329549546	3.65E-12	11.02795057	7.158918182	6.19E-90	ECM_GLYCOPROTEINS	1.182045341	1.54044931
SPARC	16.96448851	15.0976259	1.40E-27	16.96448851	6.178789773	3.13E-132	ECM_GLYCOPROTEINS	1.123652727	2.745600535
SPOCK1	10.04520345	9.29634631	0.012344158	10.04520345	0.083861364	3.11E-59	PROTEOGLYCANS	1.08055392	119.7834499
SPOCK2	14.0195977	10.6692275	3.92E-48	14.0195977	0.104305682	3.68E-40	PROTEOGLYCANS	1.314021817	134.4087633
SPON1	10.11785977	9.49423014	0.042295002	10.11785977	5.324669318	4.84E-59	ECM_GLYCOPROTEINS	1.065685118	1.900185564
SPON2	11.07854368	10.28166109	0.001107953	11.07854368	5.291855682	1.30E-11	ECM_GLYCOPROTEINS	1.077505238	2.093508278
SRGN	11.88916782	10.93118557	1.81E-09	11.88916782	3.626101136	3.61E-07	PROTEOGLYCANS	1.087637543	3.278774466
SRPX	9.232768966	8.084828522	1.83E-06	9.232768966	5.828085227	3.19E-23	ECM_GLYCOPROTEINS	1.141986987	1.584185647
SRPX2	8.36175977	7.652218054	0.003614801	8.36175977	0.447057955	5.98E-12	ECM_GLYCOPROTEINS	1.092723667	18.70397268
SSPO	7.347136782	5.560898905	5.40E-16	7.347136782	2.583748864	2.09E-36	ECM_GLYCOPROTEINS	1.321213873	2.843595554
SULF1	14.45171034	10.97815528	8.92E-40	14.45171034	7.992345455	1.65E-12	ECM_REGULATORS	1.316406079	1.808193906
SULF2	12.93065977	11.7754912	1.03E-10	12.93065977	8.803554545	1.11E-15	ECM_REGULATORS	1.098099396	1.46879987
SVEP1	10.48504483	8.154217453	4.15E-25	10.48504483	7.204344318	1.02E-16	ECM_GLYCOPROTEINS	1.285843171	1.455378084
TGFBI	14.87025057	12.24063272	1.07E-34	14.87025057	0.331004545	7.14E-82	ECM_GLYCOPROTEINS	1.214826956	44.9246114
TGM1	11.5793046	6.321878562	5.88E-69	11.5793046	11.41854091	0.000450036	ECM_REGULATORS	1.831624016	1.01407918
THBS2	14.00004483	11.08485729	1.10E-32	14.00004483	2.990764773	3.60E-190	ECM_GLYCOPROTEINS	1.262988279	4.681091925
THBS3	12.23914483	9.812401105	2.07E-113	12.23914483	5.484704545	2.01E-73	ECM_GLYCOPROTEINS	1.247313955	2.231504856
TIMP1	15.54036667	13.0121327	6.18E-42	15.54036667	10.69748068	4.13E-49	ECM_REGULATORS	1.194298201	1.452712758
TIMP2	15.08115057	13.25271185	1.20E-36	15.08115057	7.864988636	9.28E-89	ECM_REGULATORS	1.137967138	1.917504433
TIMP3	14.05314368	13.18876945	1.37E-05	14.05314368	10.76498864	1.72E-09	ECM_REGULATORS	1.065538657	1.305449003
TNXB	13.48152529	9.390344732	4.53E-87	13.48152529	9.466342045	9.41E-85	ECM_GLYCOPROTEINS	1.435679485	1.424153619
VCAN	13.09112414	11.61817348	5.05E-09	13.09112414	0.205842045	3.90E-13	PROTEOGLYCANS	1.126779882	63.59791125
WNT10A	9.30503908	6.003330702	3.90E-29	9.30503908	6.650735227	3.13E-16	SECRETED_FACTORS	1.549979427	1.399099312
WNT2B	11.87002759	7.527508613	1.18E-132	11.87002759	9.662820455	1.63E-14	SECRETED_FACTORS	1.576886616	1.228422658
WNT3	8.876863218	6.97752722	3.35E-25	8.876863218	0.864421591	4.05E-61	SECRETED_FACTORS	1.272207609	10.26913639
WNT4	8.857716092	7.011031117	1.12E-14	8.857716092	5.422438636	1.23E-83	SECRETED_FACTORS	1.263397059	1.633529983
WNT7B	8.170763218	7.311771892	0.026959202	8.170763218	1.833001136	3.92E-13	SECRETED_FACTORS	1.117480597	4.457587645
WNT9A	9.501265517	6.908381876	1.02E-28	9.501265517	1.376176136	1.21E-60	SECRETED_FACTORS	1.375324307	6.904105707
VTN	11.91651954	5.223164966	2.63E-68	11.91651954	5.340589773	3.01E-17	ECM_GLYCOPROTEINS	2.281474856	2.231311531
XCL2	5.018388506	3.469792591	6.87E-15	5.018388506	0.949342045	5.17E-08	SECRETED_FACTORS	1.44630792	5.286175336
ZP3	8.422656322	7.805067729	0.000105855	8.422656322	6.596473864	2.11E-11	ECM_GLYCOPROTEINS	1.079126615	1.276842218
ZPLD1	3.164602299	2.273493173	9.35E-05	3.164602299	1.234010227	8.26E-118	ECM_GLYCOPROTEINS	1.391955928	2.564486281

Ovarian serous cystadenocarcinoma (OV)

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
ADAM15	12.48514379	12.14891079	2.95E-12	12.48514379	0.83795	7.50E-187	ECM_REGULATORS	1.02767598	14.89962861
ADAM28	8.990647073	7.972306027	3.06E-26	8.990647073	0.294375	4.94E-145	ECM_REGULATORS	1.127734816	30.54147626
ADAM32	6.490762061	4.516453379	7.39E-121	6.490762061	3.996519318	7.40E-19	ECM_REGULATORS	1.437136956	1.624103762
ADAM33	7.501688993	6.098849371	3.55E-33	7.501688993	2.576570455	5.03E-45	ECM_REGULATORS	1.230017096	2.911501597
ADAM8	9.895855738	8.835672108	1.31E-33	9.895855738	1.253972727	1.04E-36	ECM_REGULATORS	1.119989019	7.891603639
ADAMTS17	7.097877986	6.469939052	5.79E-15	7.097877986	1.917002273	3.35E-15	ECM_REGULATORS	1.097054845	3.702592369
ADAMTS3	6.319719438	5.853245323	5.66E-07	6.319719438	2.823254545	2.66E-39	ECM_REGULATORS	1.079694954	2.238451878
ADAMTS6	5.994201405	5.745067502	0.004412245	5.994201405	0	5.32E-07	ECM_REGULATORS	1.043364835	Inf
ADAMTS7	8.4660363	8.034459517	1.29E-08	8.4660363	1.104234091	5.44E-205	ECM_REGULATORS	1.053715721	7.666885463
ADAMTS9	9.294612412	8.977638991	0.000394246	9.294612412	5.987080682	0.017371379	ECM_REGULATORS	1.035306991	1.552444823
AGRN	14.71028829	13.22559015	3.64E-120	14.71028829	5.316565909	6.31E-220	BASEMENT_MEMBRANES	1.1122595	2.76687782
AGRN	14.71028829	13.22559015	3.64E-120	14.71028829	5.316565909	6.31E-220	ECM_GLYCOPROTEINS	1.1122595	2.76687782
AMH	5.300237471	4.810524026	4.11E-05	5.300237471	0.357515909	7.70E-110	SECRETED_FACTORS	1.101800436	14.82517934
ANXA1	12.8387733	12.58123836	0.012056242	12.8387733	0.224142045	4.86E-06	ECM_AFFILIATED	1.020469761	57.27962942
ANXA11	13.72866932	12.7730452	3.64E-80	13.72866932	13.39536591	3.51E-93	ECM_AFFILIATED	1.074815685	1.024881994
ANXA13	4.642310773	3.967160166	5.07E-05	4.642310773	0.0342625	7.55E-284	ECM_AFFILIATED	1.170184862	135.4924706
ANXA3	10.84480375	9.076169795	1.75E-40	10.84480375	3.499820455	3.36E-16	ECM_AFFILIATED	1.194865675	3.098674314
ANXA9	7.895020609	7.391378034	7.39E-07	7.895020609	0.125560227	1.30E-113	ECM_AFFILIATED	1.068139199	62.87835551
ARTN	7.537910539	5.393294866	2.99E-90	7.537910539	0.296636364	1.18E-136	SECRETED_FACTORS	1.397644803	25.41128285
ASTL	4.293822482	1.822395333	1.50E-245	4.293822482	3.903072727	1.64e-318	ECM_REGULATORS	2.356142164	1.100113368
BGN	13.58052763	13.22805289	0.000364603	13.58052763	5.793145455	4.31E-116	PROTEOGLYCANS	1.026646003	2.344240748
BMP1	10.92875902	10.62568557	3.27E-08	10.92875902	9.4256625	4.66E-194	ECM_REGULATORS	1.028522719	1.159468527
BMP3	4.07574918	3.637397748	0.005978949	4.07574918	2.530544318	2.76E-137	SECRETED_FACTORS	1.120512373	1.610621537
BMP7	10.76211382	7.891825122	2.08E-54	10.76211382	8.190473864	3.19E-187	SECRETED_FACTORS	1.363704042	1.313979386
BTC	8.428602342	6.360064255	8.78E-72	8.428602342	1.7589625	3.00E-56	SECRETED_FACTORS	1.325238552	4.791803317
C1QA	11.7279555	11.46953003	0.002884938	11.7279555	9.521038636	6.10E-87	ECM_AFFILIATED	1.022531479	1.23179371
C1QB	12.45649087	11.60875435	1.54E-20	12.45649087	11.57160795	7.85E-13	ECM_AFFILIATED	1.073025623	1.076470177
C1QC	12.39126581	11.44195078	3.62E-27	12.39126581	6.343613636	1.04E-59	ECM_AFFILIATED	1.082967935	1.953344973
C1QTNF3	8.530044262	7.913812125	1.45E-10	8.530044262	2.171843182	1.58E-17	ECM_AFFILIATED	1.077867926	3.927559933
C1QTNF9	2.91544637	2.234241751	2.19E-17	2.91544637	2.696727273	6.52E-45	ECM_AFFILIATED	1.304892977	1.081105383
CCBE1	5.069017564	4.744636242	0.009695747	5.069017564	1.862502273	1.82E-45	SECRETED_FACTORS	1.068368007	2.721616848
CCL11	5.451006557	3.992449848	5.45E-25	5.451006557	0.786252273	2.56E-65	SECRETED_FACTORS	1.365328749	6.93289768
CCL20	6.977606792	5.934170637	6.14E-10	6.977606792	5.353228409	5.87E-76	SECRETED_FACTORS	1.175835212	1.30343902
CCL28	10.06684098	7.860008797	9.50E-80	10.06684098	9.537213636	7.34E-209	SECRETED_FACTORS	1.28076714	1.055532713
CCL3	7.773451756	7.42891946	5.43E-05	7.773451756	6.340792045	1.97E-199	SECRETED_FACTORS	1.046377175	1.225943337
CILP2	9.421063934	6.188143638	3.87E-150	9.421063934	3.601670455	6.14E-106	ECM_GLYCOPROTEINS	1.522437824	2.615748457
CLCF1	10.0505096	7.586128267	7.16E-179	10.0505096	7.252020455	1.09E-71	SECRETED_FACTORS	1.324853634	1.385890962
CLEC11A	10.35459321	8.441903297	2.47E-158	10.35459321	4.235623864	3.84E-84	ECM_AFFILIATED	1.226570934	2.444644176
CLEC18C	4.881362295	3.382231341	7.51E-30	4.881362295	4.195159091	3.03E-115	ECM_AFFILIATED	1.44323726	1.163570246
CLEC4E	5.711822482	5.393684253	0.000880143	5.711822482	4.371936364	2.58E-42	ECM_AFFILIATED	1.058983473	1.306474296
COL10A1	8.56577096	6.825529769	1.19E-21	8.56577096	4.158871591	6.09E-79	COLLAGENS	1.254960604	2.059638239
COL11A1	9.036805855	7.396753967	3.54E-18	9.036805855	4.648151136	1.75E-181	COLLAGENS	1.221725894	1.944172121

COL11A2	6.672815691	5.946932295	1.28E-11	6.672815691	3.157593182	1.52E-164	COLLAGENS	1.122060141	2.113260102
COL12A1	12.09792014	11.25151982	3.06E-11	12.09792014	6.947123864	5.02E-277	COLLAGENS	1.075225422	1.741428594
COL13A1	7.876257143	6.311790513	1.84E-64	7.876257143	4.500606818	2.56E-17	COLLAGENS	1.247864156	1.750043374
COL18A1	13.93399906	12.81815479	3.27E-53	13.93399906	4.852423864	4.53E-101	COLLAGENS	1.087051865	2.871554393
COL18A1	13.93399906	12.81815479	3.27E-53	13.93399906	4.852423864	4.53E-101	BASEMENT_MEMBRANES	1.087051865	2.871554393
COL1A1	16.64154965	14.65339649	2.67E-39	16.64154965	5.928756818	1.19E-213	COLLAGENS	1.135678657	2.806920601
COL1A2	15.60984754	14.44426474	7.72E-19	15.60984754	7.728581818	2.30E-108	COLLAGENS	1.080695198	2.019755747
COL25A1	5.066418735	3.819856331	9.31E-27	5.066418735	3.960978409	1.30E-81	COLLAGENS	1.32633751	1.279082644
COL3A1	14.88629157	14.24504373	1.09E-05	14.88629157	4.069794318	0.000299101	COLLAGENS	1.045015505	3.657750344
COL4A5	9.838145667	9.243899087	3.77E-07	9.838145667	6.1588875	1.10E-42	BASEMENT_MEMBRANES	1.064285273	1.597390059
COL4A5	9.838145667	9.243899087	3.77E-07	9.838145667	6.1588875	1.10E-42	COLLAGENS	1.064285273	1.597390059
COL6A2	13.69983934	13.26451559	1.80E-05	13.69983934	11.82396818	5.83E-199	COLLAGENS	1.032818669	1.158649882
COL6A2	13.69983934	13.26451559	1.80E-05	13.69983934	11.82396818	5.83E-199	BASEMENT_MEMBRANES	1.032818669	1.158649882
COL6A3	13.04769977	12.61917087	0.001570708	13.04769977	12.88514318	7.01E-138	COLLAGENS	1.033958562	1.012615815
COL6A3	13.04769977	12.61917087	0.001570708	13.04769977	12.88514318	7.01E-138	BASEMENT_MEMBRANES	1.033958562	1.012615815
COL9A2	10.4104548	8.640044349	2.13E-64	10.4104548	9.830579545	2.42E-35	COLLAGENS	1.204907565	1.058986884
COMP	8.877429274	7.174488322	1.04E-19	8.877429274	8.0084125	1.85E-241	ECM_GLYCOPROTEINS	1.237360614	1.108512989
CPAMD8	9.748430445	7.514284355	1.44E-85	9.748430445	3.203618182	2.18E-212	ECM_REGULATORS	1.297319876	3.042943913
CRELD1	10.35396136	10.23590371	0.007239613	10.35396136	6.756992045	2.00E-139	ECM_GLYCOPROTEINS	1.011533681	1.532332921
CSF1	11.84504098	10.53760739	2.40E-97	11.84504098	1.706475	0.0190492	SECRETED_FACTORS	1.124073098	6.941233234
CSH1	0.407759953	0.227973823	2.10E-05	0.407759953	0.2683125	1.92E-68	SECRETED_FACTORS	1.788626201	1.519720301
CST7	7.279537237	7.026111891	0.009672354	7.279537237	5.448784091	6.40E-233	ECM_REGULATORS	1.036069073	1.335992969
CSTL1	1.240477986	0.550957741	4.73E-46	1.240477986	1.133457955	2.39E-200	ECM_REGULATORS	2.251493885	1.094419057
CTGF	12.25030351	11.970925	0.003653573	12.25030351	0.140071591	1.66E-06	ECM_GLYCOPROTEINS	1.023338089	87.45744539
CTHRC1	10.50398337	9.014697656	2.90E-32	10.50398337	7.952111364	5.82E-133	ECM_GLYCOPROTEINS	1.165206397	1.320904964
CTSA	13.02873607	12.80799154	1.93E-06	13.02873607	0.294693182	5.18E-86	ECM_REGULATORS	1.017234906	44.21118936
CTSB	15.42844309	15.22466902	0.001114148	15.42844309	10.11695114	5.66E-219	ECM_REGULATORS	1.013384466	1.525009154
CTSF	11.82877073	10.87263265	1.64E-36	11.82877073	4.0361375	7.97E-232	ECM_REGULATORS	1.087939886	2.930715499
CXCL3	5.973495785	5.303557102	3.00E-07	5.973495785	4.897975	0.010572939	SECRETED_FACTORS	1.126318746	1.219584784
CXCL6	5.054540281	4.524416213	0.001015238	5.054540281	0.363067045	4.95E-134	SECRETED_FACTORS	1.117169607	13.92178206
CXCL8	8.522983138	8.017859619	0.000315103	8.522983138	7.288136364	1.38E-72	SECRETED_FACTORS	1.062999796	1.169432447
CYR61	11.85251686	11.52534416	0.000940609	11.85251686	10.858025	4.26E-91	ECM_GLYCOPROTEINS	1.02838724	1.091590493
DCN	12.79317119	12.01249609	3.77E-09	12.79317119	8.570943182	3.72E-290	PROTEOGLYCANS	1.064988583	1.492621165
DDX26B	8.360422717	8.162516518	0.001945433	8.360422717	1.648797727	5.87E-103	ECM_GLYCOPROTEINS	1.024245733	5.070617565
EFEMP2	11.7654459	10.38452637	1.84E-79	11.7654459	3.0062375	3.64E-110	ECM_GLYCOPROTEINS	1.132978576	3.913678111
EGFL8	7.777307728	7.638513687	0.038435086	7.777307728	7.413967045	5.62E-41	SECRETED_FACTORS	1.018170294	1.049007593
EGFLAM	8.494968618	7.595239631	8.18E-25	8.494968618	6.383727273	4.08E-23	ECM_GLYCOPROTEINS	1.118459592	1.330722359
EGLN1	11.35399461	11.20512424	6.46E-05	11.35399461	7.600998864	2.53E-66	ECM_REGULATORS	1.013285919	1.493750337
EMID1	10.46482108	7.99631111	9.13E-171	10.46482108	8.202040909	1.74E-161	ECM_GLYCOPROTEINS	1.308706094	1.275880137
EPYC	5.904547775	2.419148752	4.47E-144	5.904547775	1.913973864	7.57E-109	PROTEOGLYCANS	2.440754323	3.084967819
ESM1	8.079577752	7.674007447	0.001203474	8.079577752	6.248171591	1.16E-127	PROTEOGLYCANS	1.052849871	1.293110734
FAM20A	10.39689578	8.4744243	2.12E-73	10.39689578	5.639498864	1.07E-126	ECM_REGULATORS	1.226855703	1.843585048
FAM20C	10.86873934	10.67585045	0.003956992	10.86873934	2.013855682	3.19E-166	ECM_REGULATORS	1.018067778	5.396980252
FBLN1	12.29278103	11.54563504	1.60E-10	12.29278103	5.178522727	2.30E-68	ECM_GLYCOPROTEINS	1.06471242	2.37380073
FBLN5	10.73922108	9.85804377	6.85E-25	10.73922108	8.263398864	5.86E-274	ECM_GLYCOPROTEINS	1.08938663	1.299613059
FBN3	8.621191335	4.011001157	1.09E-167	8.621191335	5.654632955	2.92E-119	ECM_GLYCOPROTEINS	2.1493864	1.524624393

FCN1	6.726763232	6.401334771	0.002908352	6.726763232	4.508817045	2.33E-222	ECM_AFFILIATED	1.050837594	1.491913104
FGF12	7.513144965	6.254173793	5.78E-27	7.513144965	2.663564773	5.42E-143	SECRETED_FACTORS	1.201300957	2.820710441
FGF17	4.41496534	3.041329129	4.98E-37	4.41496534	3.023728409	8.10E-11	SECRETED_FACTORS	1.451656546	1.460106446
FGF3	1.912965105	0.352845323	1.40E-128	1.912965105	0.704777273	1.38E-245	SECRETED_FACTORS	5.421540212	2.714283192
FMOD	11.88809859	10.27177107	1.37E-43	11.88809859	6.794548864	3.77E-75	PROTEOGLYCANS	1.157356264	1.749652381
FNDC1	9.600284778	8.140779241	2.93E-21	9.600284778	0.142098864	4.48E-211	ECM_GLYCOPROTEINS	1.179283272	67.56060205
FRAS1	9.537160422	8.321466934	5.05E-23	9.537160422	8.400604545	1.42E-169	ECM_GLYCOPROTEINS	1.146091248	1.135294534
GAS6	13.41380141	11.6797751	3.07E-136	13.41380141	7.357082955	0	ECM_GLYCOPROTEINS	1.148464015	1.823249988
GPC4	10.34589438	9.904581849	5.16E-05	10.34589438	0.904875	8.01E-57	ECM_AFFILIATED	1.044556402	11.4335067
GPC5	4.01459274	2.882405702	1.18E-19	4.01459274	2.522506818	2.78E-293	ECM_AFFILIATED	1.392792395	1.591509173
HAPLN1	6.266915457	5.175917735	2.16E-13	6.266915457	0.216446591	7.07E-48	PROTEOGLYCANS	1.210783435	28.95363438
HAPLN3	9.951475176	8.43607989	6.45E-69	9.951475176	8.379421591	6.96E-14	PROTEOGLYCANS	1.179632638	1.187608842
HSPG2	13.8345363	13.3520807	5.08E-11	13.8345363	3.715952273	1.25E-96	BASEMENT_MEMBRANES	1.036133364	3.723012376
HSPG2	13.8345363	13.3520807	5.08E-11	13.8345363	3.715952273	1.25E-96	PROTEOGLYCANS	1.036133364	3.723012376
HYAL2	11.67794941	11.12761848	2.94E-45	11.67794941	1.068781818	1.87E-110	ECM_REGULATORS	1.049456309	10.926411
HYAL3	8.296868852	7.050463809	1.83E-140	8.296868852	0.793639773	3.69E-168	ECM_REGULATORS	1.176783411	10.45419992
IBSP	5.127900703	3.200376563	2.15E-49	5.127900703	3.661544318	3.34E-22	ECM_GLYCOPROTEINS	1.60228042	1.400474843
IGFBP2	14.77849578	11.38359689	6.42E-197	14.77849578	3.308595455	2.26E-125	ECM_GLYCOPROTEINS	1.298227259	4.466697723
IGFBP7	13.84322201	13.38459881	4.92E-13	13.84322201	3.753894318	8.33E-66	ECM_GLYCOPROTEINS	1.034264994	3.687696254
IGSF10	8.022576347	5.921321195	3.41E-62	8.022576347	6.493828409	2.43E-51	ECM_GLYCOPROTEINS	1.354862552	1.235415512
IMPG2	7.325644496	3.689035166	0	7.325644496	0.720606818	3.48E-94	PROTEOGLYCANS	1.98578874	10.16593836
ITIH5	9.616670492	9.139512622	1.88E-05	9.616670492	6.149601136	1.49E-89	ECM_REGULATORS	1.05220824	1.56378768
ITIH6	3.217039344	2.710970495	0.000450531	3.217039344	2.437770455	2.48E-220	ECM_REGULATORS	1.186674422	1.319664589
KAZALD1	8.061175644	7.345047088	7.37E-17	8.061175644	4.251143182	8.24E-50	ECM_REGULATORS	1.097498157	1.896237153
KY	3.736312178	3.150563931	1.14E-07	3.736312178	2.282142045	3.45E-210	ECM_REGULATORS	1.18591854	1.637195277
LAMA5	14.21761265	12.23349818	2.30E-181	14.21761265	5.271243182	1.32E-117	BASEMENT_MEMBRANES	1.162187008	2.697202947
LAMA5	14.21761265	12.23349818	2.30E-181	14.21761265	5.271243182	1.32E-117	ECM_GLYCOPROTEINS	1.162187008	2.697202947
LAMB2	13.05291335	12.69586931	8.37E-09	13.05291335	6.199969318	3.90E-109	ECM_GLYCOPROTEINS	1.028122851	2.105319023
LAMB2	13.05291335	12.69586931	8.37E-09	13.05291335	6.199969318	3.90E-109	BASEMENT_MEMBRANES	1.028122851	2.105319023
LAMB3	11.2414377	10.80988009	0.002379016	11.2414377	5.342407955	0.021209709	BASEMENT_MEMBRANES	1.039922516	2.104189309
LAMB3	11.2414377	10.80988009	0.002379016	11.2414377	5.342407955	0.021209709	ECM_GLYCOPROTEINS	1.039922516	2.104189309
LAMC1	13.46229813	12.75514809	2.62E-27	13.46229813	1.8319125	1.93E-155	BASEMENT_MEMBRANES	1.055440362	7.348767
LAMC1	13.46229813	12.75514809	2.62E-27	13.46229813	1.8319125	1.93E-155	ECM_GLYCOPROTEINS	1.055440362	7.348767
LAMC2	12.14237049	9.999060248	1.48E-28	12.14237049	3.909002273	4.81E-64	ECM_GLYCOPROTEINS	1.214351168	3.106258233
LAMC2	12.14237049	9.999060248	1.48E-28	12.14237049	3.909002273	4.81E-64	BASEMENT_MEMBRANES	1.214351168	3.106258233
LAMC3	8.385036066	7.744194998	3.52E-10	8.385036066	5.444	5.32E-10	ECM_GLYCOPROTEINS	1.082751153	1.540234399
LAMC3	8.385036066	7.744194998	3.52E-10	8.385036066	5.444	5.32E-10	BASEMENT_MEMBRANES	1.082751153	1.540234399
LGALS1	13.08060422	12.6650971	2.89E-09	13.08060422	9.332195455	4.32E-208	ECM_AFFILIATED	1.032807259	1.401664194
LGALS9	11.9534096	10.8248943	4.06E-55	11.9534096	8.188831818	2.77E-32	ECM_AFFILIATED	1.104251854	1.459720979
LOX	9.938874941	9.511695292	4.31E-05	9.938874941	1.688184091	1.16E-315	ECM_REGULATORS	1.04491099	5.887317026
LOXL1	10.98252319	9.145221246	5.24E-80	10.98252319	9.193948864	8.00E-314	ECM_REGULATORS	1.200902951	1.194538206
LOXL4	8.863853396	7.771169947	1.96E-21	8.863853396	2.124920455	7.34E-248	ECM_REGULATORS	1.140607329	4.171381275
LRG1	8.839179625	8.301315179	0.00027813	8.839179625	0.161159091	5.04E-128	ECM_GLYCOPROTEINS	1.064792679	54.84753963
LTBP2	12.37901124	11.20731689	8.13E-35	12.37901124	6.822564773	7.90E-323	ECM_GLYCOPROTEINS	1.104547267	1.814421944
LTBP3	13.44267728	12.11826726	2.81E-108	13.44267728	9.146761364	1.37E-161	ECM_GLYCOPROTEINS	1.109290379	1.469665245
LTBP4	12.11983513	11.5422021	6.88E-15	12.11983513	1.134201136	2.58E-06	ECM_GLYCOPROTEINS	1.050045305	10.68578997

<b>MATN2</b>	10.86944379	10.28373041	7.84E-11	10.86944379	3.5017	0	ECM_GLYCOPROTEINS	1.056955342	3.104047689
<b>MFAP2</b>	11.74334918	8.950824838	3.18E-99	11.74334918	1.199613636	2.37E-56	ECM_GLYCOPROTEINS	1.31198514	9.789276167
<b>MFAP5</b>	9.402893208	6.656987033	9.81E-63	9.402893208	7.282652273	1.26E-216	ECM_GLYCOPROTEINS	1.412484832	1.291135819
<b>MFGE8</b>	13.30270937	11.69517655	8.41E-111	13.30270937	9.285703409	5.37E-268	ECM_GLYCOPROTEINS	1.137452633	1.432601148
<b>MMP11</b>	11.54939953	9.873782752	6.74E-33	11.54939953	1.070275	1.03E-17	ECM_REGULATORS	1.169703631	10.79105794
<b>MMP15</b>	11.29674473	10.75782345	8.90E-13	11.29674473	4.612923864	3.96E-206	ECM_REGULATORS	1.050095755	2.448933706
<b>MMP2</b>	12.66078244	12.24848089	3.70E-05	12.66078244	11.88949318	0	ECM_REGULATORS	1.033661443	1.0648715
<b>MMP23B</b>	8.574217564	5.699775852	1.28E-243	8.574217564	2.105089773	4.17E-11	ECM_REGULATORS	1.504307851	4.073088794
<b>MMP24</b>	8.38033185	6.904115077	1.18E-34	8.38033185	0.241529545	5.77E-284	ECM_REGULATORS	1.213816942	34.69692221
<b>MMP7</b>	11.56676323	8.038498569	2.52E-70	11.56676323	11.35431364	1.54E-207	ECM_REGULATORS	1.438920855	1.018710915
<b>MUC1</b>	14.39931756	10.67021314	1.38E-118	14.39931756	4.323046591	1.54E-108	ECM_AFFILIATED	1.349487342	3.330826366
<b>MUC15</b>	6.271611007	4.596114418	9.74E-17	6.271611007	4.302838636	3.57E-25	ECM_AFFILIATED	1.364546318	1.457551988
<b>MUC16</b>	14.49132834	4.797925548	0	14.49132834	3.793965909	1.13E-33	ECM_AFFILIATED	3.020332057	3.819572628
<b>MUC20</b>	11.46670867	8.894625619	2.39E-88	11.46670867	5.420503409	2.26E-278	ECM_AFFILIATED	1.289172716	2.115432424
<b>MUC4</b>	8.354538642	6.646361627	3.60E-19	8.354538642	6.610771591	1.49E-51	ECM_AFFILIATED	1.25700934	1.26377663
<b>MUC5AC</b>	3.784044731	3.154161932	0.002186994	3.784044731	3.622044318	0.001068024	ECM_AFFILIATED	1.199698941	1.044726237
<b>MUC5B</b>	8.774392037	5.923638474	7.67E-37	8.774392037	0.0289625	1.32E-58	ECM_AFFILIATED	1.48125043	302.9569974
<b>MXRA5</b>	12.50287166	10.98856956	2.74E-33	12.50287166	2.138310227	1.17E-29	ECM_GLYCOPROTEINS	1.137807027	5.847080327
<b>NGLY1</b>	10.28084169	9.957309619	2.13E-29	10.28084169	7.918786364	2.14E-109	ECM_REGULATORS	1.032491916	1.298285017
<b>NOV</b>	9.136040749	7.974512064	7.89E-33	9.136040749	8.679488636	1.79E-138	ECM_GLYCOPROTEINS	1.145655142	1.052601269
<b>NTN1</b>	10.05322623	8.348553653	5.94E-48	10.05322623	9.140754545	1.16E-06	BASEMENT_MEMBRANES	1.204187773	1.099824547
<b>NTN1</b>	10.05322623	8.348553653	5.94E-48	10.05322623	9.140754545	1.16E-06	ECM_GLYCOPROTEINS	1.204187773	1.099824547
<b>NTN4</b>	10.05788361	9.74494795	0.002660868	10.05788361	0.432769318	1.71E-66	BASEMENT_MEMBRANES	1.032112604	23.24075017
<b>NTN4</b>	10.05788361	9.74494795	0.002660868	10.05788361	0.432769318	1.71E-66	ECM_GLYCOPROTEINS	1.032112604	23.24075017
<b>NTN5</b>	4.996707963	3.628190138	1.67E-71	4.996707963	2.335186364	3.88E-17	ECM_GLYCOPROTEINS	1.377190217	2.139746977
<b>NTN5</b>	4.996707963	3.628190138	1.67E-71	4.996707963	2.335186364	3.88E-17	BASEMENT_MEMBRANES	1.377190217	2.139746977
<b>NTNG1</b>	5.248816628	4.263854495	3.47E-11	5.248816628	2.505509091	2.39E-207	BASEMENT_MEMBRANES	1.231002754	2.094910231
<b>NTNG1</b>	5.248816628	4.263854495	3.47E-11	5.248816628	2.505509091	2.39E-207	ECM_GLYCOPROTEINS	1.231002754	2.094910231
<b>OGFOD1</b>	10.5195548	10.46721055	0.033215536	10.5195548	2.750610227	1.54E-90	ECM_REGULATORS	1.005000783	3.824444008
<b>OVGP1</b>	7.427050117	6.236974432	6.63E-52	7.427050117	6.919146591	5.56E-304	ECM_AFFILIATED	1.190809775	1.073405516
<b>PLAT</b>	11.42578103	10.77696345	2.18E-10	11.42578103	10.77925227	2.07E-80	ECM_REGULATORS	1.060204118	1.059978999
<b>PLXDC2</b>	11.69932436	10.88319747	4.40E-25	11.69932436	0.061589773	2.52E-272	ECM_AFFILIATED	1.074989624	189.9556345
<b>PLXNA1</b>	11.93970703	11.50542314	7.38E-12	11.93970703	5.021021591	5.84E-11	ECM_AFFILIATED	1.037746016	2.377943773
<b>PLXNA3</b>	11.90166721	10.68557464	2.67E-113	11.90166721	8.4293625	3.41E-21	ECM_AFFILIATED	1.113806941	1.411929694
<b>PLXNB2</b>	14.00893934	13.66575592	2.00E-15	14.00893934	6.501055682	1.60E-84	ECM_AFFILIATED	1.025112656	2.154871459
<b>PODNL1</b>	8.589643091	6.57862844	2.37E-77	8.589643091	4.977126136	3.87E-148	PROTEOGLYCANS	1.305689046	1.72582387
<b>POMZP3</b>	9.178620609	8.756252394	5.56E-20	9.178620609	1.451835227	7.35E-216	ECM_GLYCOPROTEINS	1.048236185	6.322081485
<b>PXDN</b>	12.30886628	11.23052421	2.04E-33	12.30886628	0.502647727	0	ECM_GLYCOPROTEINS	1.096018854	24.48805716
<b>PXDNL</b>	5.193834426	4.528682305	3.65E-11	5.193834426	2.552178409	4.11E-139	ECM_GLYCOPROTEINS	1.146875421	2.035059308
<b>RSPO1</b>	8.564930445	3.104684801	0	8.564930445	1.812540909	7.62E-103	ECM_GLYCOPROTEINS	2.758711751	4.725372212
<b>RSPO3</b>	7.648325761	5.651119978	5.89E-59	7.648325761	7.129190909	1.40E-33	ECM_GLYCOPROTEINS	1.353417693	1.0728182
<b>RSPO4</b>	7.476433724	4.043109953	1.12E-146	7.476433724	1.403763636	1.05E-105	ECM_GLYCOPROTEINS	1.849178927	5.325991876
<b>SBSPON</b>	9.176945199	7.029450954	9.91E-87	9.176945199	8.265506818	2.90E-24	ECM_GLYCOPROTEINS	1.30549957	1.110270114
<b>SDC3</b>	12.44861593	11.85881039	9.51E-15	12.44861593	10.3619375	2.73E-118	ECM_AFFILIATED	1.049735641	1.201379175
<b>SEMA3B</b>	11.47289344	9.45391739	5.03E-93	11.47289344	4.055819318	1.65E-107	ECM_AFFILIATED	1.213559731	2.828748655
<b>SEMA3C</b>	10.50545831	10.05694137	0.000473095	10.50545831	0.316580682	7.78E-87	ECM_AFFILIATED	1.044597749	33.18414204



SEMA3E	6.613915457	5.110393121	1.06E-20	6.613915457	1.547186364	7.54E-66	ECM_AFFILIATED	1.294208743	4.274802061
SEMA3F	11.979774	10.55742698	2.94E-56	11.979774	5.262152273	1.11E-165	ECM_AFFILIATED	1.13472478	2.276592045
SEMA4A	10.02389391	9.707560846	9.19E-05	10.02389391	5.029613636	9.62E-24	ECM_AFFILIATED	1.032586256	1.992974935
SEMA4C	11.45498876	10.742427	2.46E-55	11.45498876	7.172706818	0.001062539	ECM_AFFILIATED	1.066331543	1.597024533
SEMA4D	10.58986745	10.42550944	0.003379259	10.58986745	1.698551136	3.40E-145	ECM_AFFILIATED	1.015764986	6.234647412
SEMA4F	8.842200468	8.659497007	0.00032161	8.842200468	8.810028409	3.22E-238	ECM_AFFILIATED	1.021098623	1.003651754
SEMA5B	8.764908431	6.812674584	4.39E-62	8.764908431	1.245409091	1.27E-66	ECM_AFFILIATED	1.286559093	7.037774571
SEMA6D	9.093357377	7.733087804	9.48E-39	9.093357377	2.064331818	8.61E-99	ECM_AFFILIATED	1.175902512	4.404988237
SERPINA5	9.75081897	6.262222677	1.79E-75	9.75081897	0.026001136	3.99E-05	ECM_REGULATORS	1.557085954	375.0151083
SERPINB2	6.052825761	3.895233046	6.79E-32	6.052825761	3.463939773	2.80E-66	ECM_REGULATORS	1.553905938	1.747381929
SERPINB9	9.808486417	9.255728713	3.59E-17	9.808486417	6.230551136	9.11E-19	ECM_REGULATORS	1.059720603	1.574256627
SERPING1	14.44445925	12.83354895	1.85E-73	14.44445925	10.41882273	1.21E-233	ECM_REGULATORS	1.125523369	1.386381132
SERPINH1	13.75354707	12.63424212	9.96E-61	13.75354707	5.440107955	7.11E-172	ECM_REGULATORS	1.088592964	2.528175394
SLIT2	9.078046838	8.231706209	4.75E-15	9.078046838	3.686559091	3.86E-74	ECM_GLYCOPROTEINS	1.102814727	2.462471539
SLIT3	10.3958918	9.712318679	2.49E-09	10.3958918	1.751048864	2.25E-13	ECM_GLYCOPROTEINS	1.070382073	5.936951286
SLPI	14.4749377	9.350146459	4.35E-156	14.4749377	6.950823864	2.02E-09	ECM_REGULATORS	1.54809743	2.08247799
SMOC2	9.715422951	9.331990381	0.000694413	9.715422951	7.158918182	1.34E-184	ECM_GLYCOPROTEINS	1.041087973	1.357107695
SNED1	9.375377752	9.168028551	0.007314321	9.375377752	2.744521591	1.24E-277	ECM_GLYCOPROTEINS	1.022616553	3.41603352
SPOCK2	12.80686909	10.58218176	4.45E-99	12.80686909	0.104305682	0.001727572	PROTEOGLYCANS	1.210229552	122.782085
SPON1	14.56326745	9.212814702	0	14.56326745	5.324669318	3.90E-102	ECM_GLYCOPROTEINS	1.580762006	2.735055752
SRPX2	7.945938407	7.697606859	0.028750269	7.945938407	0.447057955	5.88E-22	ECM_GLYCOPROTEINS	1.032260877	17.77384414
SSPO	7.035513583	5.474774412	1.74E-53	7.035513583	2.583748864	3.24E-110	ECM_GLYCOPROTEINS	1.285078262	2.722986619
ST14	13.31902553	11.62216987	1.56E-40	13.31902553	7.75235	6.41E-135	ECM_REGULATORS	1.146001623	1.718062978
SULF1	11.54973583	11.01650899	1.22E-05	11.54973583	7.992345455	2.75E-72	ECM_REGULATORS	1.048402524	1.445099677
THBS3	11.11961569	9.793048874	1.95E-157	11.11961569	5.484704545	5.47E-56	ECM_GLYCOPROTEINS	1.135460043	2.027386452
THSD4	12.47778759	9.59101531	2.35E-148	12.47778759	0.623610227	0.000289088	ECM_GLYCOPROTEINS	1.300987141	20.00895278
TIMP1	14.12874778	13.01716283	5.34E-38	14.12874778	10.69748068	2.90E-45	ECM_REGULATORS	1.085393795	1.320754689
TSPEAR	3.154500937	2.618330875	3.50E-07	3.154500937	0.246639773	2.09E-158	ECM_GLYCOPROTEINS	1.204775518	12.78991179
WFIKKN1	5.423455269	5.017183685	4.63E-07	5.423455269	0.677475	0.00598092	SECRETED_FACTORS	1.080976024	8.005395431
WFIKKN2	3.403708899	2.330780469	6.92E-27	3.403708899	1.607265909	1.46E-237	SECRETED_FACTORS	1.46033011	2.117701172
WISP3	7.103237237	3.981010653	2.71E-202	7.103237237	2.821670455	2.42E-18	ECM_GLYCOPROTEINS	1.784279886	2.517387254
WNT10A	10.31926628	5.772225994	1.44E-256	10.31926628	6.650735227	1.19E-96	SECRETED_FACTORS	1.787744674	1.551597819
WNT11	8.695292506	5.859420272	4.20E-129	8.695292506	2.8379625	6.74E-40	SECRETED_FACTORS	1.483985122	3.063920861
WNT2	6.356818501	5.529834111	2.21E-08	6.356818501	4.862244318	1.95E-05	SECRETED_FACTORS	1.149549584	1.307383604
WNT6	7.818470492	3.640180793	0	7.818470492	3.036595455	1.35E-186	SECRETED_FACTORS	2.147824775	2.574748796
WNT9A	7.697771194	6.88970344	4.97E-14	7.697771194	1.376176136	6.00E-124	SECRETED_FACTORS	1.11728629	5.593594447
VWA1	12.79596159	11.46398755	3.10E-81	12.79596159	9.995514773	4.20E-177	ECM_GLYCOPROTEINS	1.116187673	1.280170345
VWA2	6.978196721	5.53905211	2.49E-21	6.978196721	3.028419318	8.01E-88	ECM_GLYCOPROTEINS	1.25981785	2.30423729
VWA3A	5.838096956	2.750141213	2.22E-175	5.838096956	1.233936364	3.11E-33	ECM_GLYCOPROTEINS	2.122835339	4.731278798
VWA7	7.94507822	6.533085856	1.54E-56	7.94507822	2.859077273	1.55E-18	ECM_GLYCOPROTEINS	1.216129467	2.778895938
VWA9	10.7910993	10.61640365	1.01E-14	10.7910993	0	3.42E-08	ECM_GLYCOPROTEINS	1.016455256	Inf
VWCE	8.201612881	5.711136161	1.02E-124	8.201612881	7.819661364	1.29E-58	ECM_GLYCOPROTEINS	1.436073778	1.04884502
VWDE	6.007568852	4.160367421	5.18E-40	6.007568852	0.554190909	2.82E-65	ECM_GLYCOPROTEINS	1.443999591	10.84025153
XCL2	4.22536089	3.451260562	3.25E-17	4.22536089	0.949342045	2.95E-07	SECRETED_FACTORS	1.224294954	4.450830878
ZP3	9.301655738	7.719755915	4.79E-105	9.301655738	6.596473864	1.69E-11	ECM_GLYCOPROTEINS	1.204915782	1.41009514

**Pancreatic Adenocarcinoma (PAAD)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
ADAM15	12.47848361	12.16121957	1.22E-05	12.47848361	11.6925	0.021874399	ECM_REGULATORS	1.026088176	1.067221177
ANXA10	10.25956066	2.19835954	3.56E-229	10.25956066	6.01345	0.005978883	ECM_AFFILIATED	4.666916612	1.706102263
ANXA13	7.964411475	3.905186782	8.71E-60	7.964411475	4.871275	0.00754829	ECM_AFFILIATED	2.039444442	1.634974719
AREG	9.449830055	6.979811355	1.37E-24	9.449830055	6.7669	0.002946447	SECRETED_FACTORS	1.353880438	1.396478455
BTC	7.506886885	6.44669637	1.33E-09	7.506886885	6.16245	0.004663966	SECRETED_FACTORS	1.164454855	1.218165971
CCL15	5.696214754	2.678599631	7.29E-33	5.696214754	3.000075	0.020529667	SECRETED_FACTORS	2.126564451	1.898690784
COL17A1	11.72529727	7.803316101	1.73E-36	11.72529727	7.194725	0.00271202	COLLAGENS	1.502604421	1.629707497
CST4	5.105444809	2.105719187	3.75E-57	5.105444809	2.9555	0.046154684	ECM_REGULATORS	2.424561091	1.727438609
CTSE	13.51801257	4.862236995	1.02E-152	13.51801257	10.150975	0.035408968	ECM_REGULATORS	2.780204375	1.331695977
DMBT1	11.3447694	5.089390596	6.77E-87	11.3447694	7.027675	0.010792403	ECM_GLYCOPROTEINS	2.229101733	1.614299096
EREG	6.938223497	4.273947118	4.80E-25	6.938223497	3.007625	0.00387164	SECRETED_FACTORS	1.623376075	2.306877851
F12	7.891927322	7.222801504	0.000281678	7.891927322	5.991525	0.005490922	ECM_REGULATORS	1.09264076	1.31718174
LAMA3	12.65140328	9.789260025	2.76E-47	12.65140328	10.421375	0.004360101	BASEMENT_MEMBRANES	1.292375853	1.213985993
LAMA3	12.65140328	9.789260025	2.76E-47	12.65140328	10.421375	0.004360101	ECM_GLYCOPROTEINS	1.292375853	1.213985993
MMP28	10.03943825	7.18999178	1.55E-66	10.03943825	8.128275	0.007583901	ECM_REGULATORS	1.396307334	1.235125319
MMP3	6.17977377	4.550021031	1.64E-08	6.17977377	3.7135	0.021260895	ECM_REGULATORS	1.35818576	1.664137275
MUC1	14.19635902	10.81774834	2.95E-43	14.19635902	11.121575	0.002960313	ECM_AFFILIATED	1.312321064	1.276470196
MUC13	11.98540492	4.689187539	4.03E-106	11.98540492	8.1559	0.000651207	ECM_AFFILIATED	2.555966214	1.469537993
MUC17	8.533389071	1.449220468	3.23E-169	8.533389071	4.063075	0.031406015	ECM_AFFILIATED	5.88826149	2.100229277
MUC4	10.1772306	6.66719145	1.38E-34	10.1772306	6.927825	0.019157022	ECM_AFFILIATED	1.526464431	1.469036906
MUC5AC	11.6032153	3.069593129	2.55E-173	11.6032153	5.1649	0.002076761	ECM_AFFILIATED	3.780049933	2.246551782
MUC5B	12.25629235	5.980757735	5.79E-77	12.25629235	8.151925	0.007962225	ECM_AFFILIATED	2.049287547	1.503484435
NDNF	7.559861202	5.602530134	5.48E-18	7.559861202	5.53135	0.032435725	ECM_GLYCOPROTEINS	1.349365558	1.366729858
P4HA2	11.43687541	10.69032027	2.73E-12	11.43687541	10.6788	0.021159716	ECM_REGULATORS	1.069834684	1.07098882
PI3	8.870198907	5.892774864	1.59E-18	8.870198907	6.222275	0.042465057	ECM_REGULATORS	1.505266892	1.42555559
PLXNA2	11.42138689	10.51896031	9.05E-21	11.42138689	9.95755	0.000128787	ECM_AFFILIATED	1.085790473	1.147007736
PRSS12	9.131220765	6.801189645	1.18E-33	9.131220765	7.724125	0.036134263	ECM_REGULATORS	1.3425917	1.182168953
PRSS3	10.67896612	4.432121497	1.01E-111	10.67896612	7.252875	0.008467159	ECM_REGULATORS	2.409447965	1.472376971
REG4	10.5203	2.644548525	1.16E-176	10.5203	5.901775	0.026885294	ECM_AFFILIATED	3.978108135	1.782565415
SDC1	13.45909508	12.44859451	1.78E-07	13.45909508	11.597575	0.005448054	ECM_AFFILIATED	1.081173869	1.160509424
SEMA4G	10.28006339	8.468645953	1.94E-36	10.28006339	8.635625	0.007155921	ECM_AFFILIATED	1.213896938	1.190424942
SERPINB3	6.098840437	3.342312908	4.81E-16	6.098840437	2.614575	0.048445434	ECM_REGULATORS	1.824736524	2.332631666
SERPINB4	4.591914208	2.714413956	7.76E-11	4.591914208	1.7921	0.038341617	ECM_REGULATORS	1.69167794	2.562309139
SERPINB5	10.00606831	5.996560472	2.04E-27	10.00606831	4.419725	7.75E-05	ECM_REGULATORS	1.668634604	2.263957216
SFTA2	8.554688525	3.041460899	6.77E-96	8.554688525	5.757675	0.030760845	ECM_AFFILIATED	2.812690615	1.485788712
SLPI	12.15946612	9.593511694	4.43E-18	12.15946612	9.547225	0.004292805	ECM_REGULATORS	1.267467691	1.273612607
TINAG	4.450571585	1.897891246	7.82E-25	4.450571585	1.072075	0.007613601	ECM_GLYCOPROTEINS	2.345008753	4.151362157
WNT7B	9.150920219	7.192302019	6.03E-13	9.150920219	6.636525	0.006511436	SECRETED_FACTORS	1.272321462	1.378872259
VWA3B	4.756512022	3.223021254	2.51E-19	4.756512022	2.997125	0.014354663	ECM_GLYCOPROTEINS	1.475792943	1.587024906

**Pheochromocytoma and paraganglioma (PCPG)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
ADAM23	10.15726919	6.750581499	3.40E-65	10.15726919	7.9768	0.001439183	ECM_REGULATORS	1.504650998	1.273351368
ADAM29	2.209852432	0.994209406	6.25E-30	2.209852432	0	0.026336233	ECM_REGULATORS	2.222723321	Inf
ADAMTS13	7.369545405	7.01204008	0.000323348	7.369545405	5.7199	0.001653674	ECM_REGULATORS	1.050984495	1.288404588
ADAMTS19	8.063711351	2.179762464	1.17E-207	8.063711351	3.587333333	0.001795953	ECM_REGULATORS	3.699353249	2.247828847
ADAMTS9	9.734160541	8.997890245	3.98E-08	9.734160541	8.578733333	0.044308842	ECM_REGULATORS	1.081826992	1.134685059
AMH	6.411084865	4.821796758	7.88E-19	6.411084865	2.881466667	0.00096161	SECRETED_FACTORS	1.329604956	2.224938063
ANGPT2	9.136489189	8.567633062	1.25E-06	9.136489189	4.7242	2.22E-05	SECRETED_FACTORS	1.066395949	1.933975951
ANXA6	13.59219568	12.23052098	1.84E-50	13.59219568	12.90676667	0.007946362	ECM_AFFILIATED	1.111334153	1.053106175
BCAN	9.391909189	4.482181285	1.91E-56	9.391909189	6.0429	0.016060788	PROTEOGLYCANS	2.095388069	1.554205628
BMP7	12.03806703	7.957072209	2.50E-49	12.03806703	6.358666667	2.90E-05	SECRETED_FACTORS	1.512876434	1.893174726
BMP8B	9.906523784	7.758192273	3.05E-65	9.906523784	5.561533333	8.85E-06	SECRETED_FACTORS	1.276911352	1.781257648
BMPER	6.454091351	5.058993768	1.86E-16	6.454091351	4.6716	0.043513461	ECM_GLYCOPROTEINS	1.275765824	1.38155907
C1QL1	11.22214757	5.801038827	5.38E-130	11.22214757	6.225066667	0.001613579	ECM_AFFILIATED	1.934506543	1.802735323
C1QL4	4.840688108	3.566869113	7.43E-10	4.840688108	1.721166667	0.012588041	ECM_AFFILIATED	1.357125242	2.812445884
C1QTNF9	2.57108973	2.270456455	0.013058798	2.57108973	0.7714	0.024787353	ECM_AFFILIATED	1.132410941	3.333017539
CBLN1	8.552329189	3.918867463	6.05E-121	8.552329189	4.221	0.002228238	SECRETED_FACTORS	2.182347137	2.026138164
CLEC4F	3.626871892	3.280324267	0.012425641	3.626871892	0.716166667	0.008184551	ECM_AFFILIATED	1.105644319	5.064284699
COL11A2	6.850741081	5.97384306	4.67E-08	6.850741081	4.613066667	0.008344912	COLLAGENS	1.146789598	1.485073071
COL21A1	6.988367027	6.140055465	2.63E-07	6.988367027	5.0952	0.043785709	COLLAGENS	1.138160244	1.371558924
COL22A1	11.1239173	6.463970763	2.41E-117	11.1239173	5.7366	2.67E-05	COLLAGENS	1.720910831	1.93911329
COL4A1	13.74791946	13.18093568	5.59E-05	13.74791946	12.03913333	0.025130509	COLLAGENS	1.043015442	1.141935975
COL4A1	13.74791946	13.18093568	5.59E-05	13.74791946	12.03913333	0.025130509	BASEMENT_MEMBRANES	1.043015442	1.141935975
COL9A1	4.643000541	3.953880654	0.001198299	4.643000541	2.156766667	0.024410971	COLLAGENS	1.174289501	2.152759783
COLQ	7.247843243	6.257493273	8.00E-26	7.247843243	5.992666667	0.043031221	BASEMENT_MEMBRANES	1.158266246	1.209452093
COLQ	7.247843243	6.257493273	8.00E-26	7.247843243	5.992666667	0.043031221	ECM_GLYCOPROTEINS	1.158266246	1.209452093
CRELD1	11.62089405	10.22388406	2.03E-102	11.62089405	10.69396667	0.011900322	ECM_GLYCOPROTEINS	1.136641807	1.086677602
CSPG5	7.322000541	6.030864978	9.68E-12	7.322000541	3.8906	5.94E-07	ECM_AFFILIATED	1.214087957	1.881972071
EGFLAM	11.88806162	7.551577655	4.60E-254	11.88806162	8.518166667	0.001140655	ECM_GLYCOPROTEINS	1.574248742	1.395612705
ELN	11.19355027	10.03016328	5.01E-12	11.19355027	9.377833333	0.034166501	ECM_GLYCOPROTEINS	1.115988839	1.193617958
ESM1	9.778595676	7.66373014	9.23E-30	9.778595676	7.1215	0.031357189	PROTEOGLYCANS	1.275957725	1.37310899
FGF1	9.605981622	7.082217501	1.08E-40	9.605981622	5.486666667	0.000279715	SECRETED_FACTORS	1.356352247	1.750786444
FGF14	10.42451081	5.495114065	1.92E-164	10.42451081	5.5986	5.85E-09	SECRETED_FACTORS	1.89705085	1.861985284
FGF2	9.134366486	7.79258444	2.05E-18	9.134366486	7.6043	0.015685606	SECRETED_FACTORS	1.17218704	1.201210695
FRAS1	8.939234595	8.390863269	0.002989113	8.939234595	6.105133333	0.003690267	ECM_GLYCOPROTEINS	1.065353386	1.464216112
GAS6	12.86997784	11.71689571	3.26E-27	12.86997784	11.86096667	0.004534005	ECM_GLYCOPROTEINS	1.098411914	1.085069894
HMCN2	7.629457297	6.346645117	1.35E-13	7.629457297	4.795066667	0.008732534	ECM_GLYCOPROTEINS	1.202124454	1.591105573
HTRA1	12.72659568	11.80214542	1.87E-11	12.72659568	11.42356667	0.031086826	ECM_REGULATORS	1.078329001	1.114064989
IGFBPL1	7.894916757	3.089620899	3.90E-169	7.894916757	2.154766667	2.75E-10	ECM_GLYCOPROTEINS	2.555302743	3.663931171
LOXL3	10.43425297	7.800972054	2.24E-132	10.43425297	8.027633333	0.001143281	ECM_REGULATORS	1.337558051	1.299791924
MMP15	11.6785427	10.77564726	1.13E-15	11.6785427	9.0148	4.34E-09	ECM_REGULATORS	1.083790367	1.295485502
MMP16	8.547111892	6.812869103	2.31E-19	8.547111892	5.834133333	0.001287375	ECM_REGULATORS	1.254553957	1.465018265
MMP17	7.673587027	6.575559765	1.12E-10	7.673587027	4.764433333	0.007934962	ECM_REGULATORS	1.166986128	1.610598048

MMP24	9.015028649	6.919515463	1.66E-31	9.015028649	5.904566667	2.68E-06	ECM_REGULATORS	1.302841029	1.526789205
MUC12	5.636061081	4.994126509	0.004612188	5.636061081	1.6878	0.010214098	ECM_AFFILIATED	1.128537908	3.339294396
NELL1	5.143024865	3.295989652	1.78E-14	5.143024865	1.549133333	0.047639032	ECM_GLYCOPROTEINS	1.560388656	3.319936867
NELL2	9.887304865	7.804519588	2.59E-25	9.887304865	6.0374	0.011320177	ECM_GLYCOPROTEINS	1.26686912	1.637675964
NTN3	2.813151351	2.098356416	5.05E-09	2.813151351	0.677933333	0.010389194	ECM_GLYCOPROTEINS	1.34064515	4.149598807
NTN3	2.813151351	2.098356416	5.05E-09	2.813151351	0.677933333	0.010389194	BASEMENT_MEMBRANES	1.34064515	4.149598807
NTNG1	8.858544865	4.220461551	3.66E-98	8.858544865	3.365066667	0.000235649	BASEMENT_MEMBRANES	2.09895168	2.63250204
NTNG1	8.858544865	4.220461551	3.66E-98	8.858544865	3.365066667	0.000235649	ECM_GLYCOPROTEINS	2.09895168	2.63250204
P4HA2	11.47875568	10.68942327	1.07E-13	11.47875568	8.288166667	8.03E-09	ECM_REGULATORS	1.073842376	1.384957149
P4HTM	12.76905459	10.26358265	2.13E-154	12.76905459	11.442	0.000262902	ECM_REGULATORS	1.244112804	1.115980999
PARM1	14.17438595	10.00073266	4.20E-138	14.17438595	11.3275	1.86E-05	ECM_AFFILIATED	1.417334752	1.251325177
PLOD3	11.96138757	11.68413105	0.000385585	11.96138757	10.75793333	0.000129464	ECM_REGULATORS	1.023729323	1.111866675
PLXDC1	9.237015676	8.821530489	7.93E-05	9.237015676	7.1762	0.005854972	ECM_AFFILIATED	1.047098991	1.287173668
PLXNA2	11.29858811	10.52099029	5.84E-16	11.29858811	7.984566667	3.97E-07	ECM_AFFILIATED	1.073909185	1.415053387
PLXNA3	12.38694108	10.70751952	6.05E-97	12.38694108	9.941233333	2.37E-09	ECM_AFFILIATED	1.156845062	1.246016532
PLXNA4	9.218675676	6.903955669	8.57E-35	9.218675676	6.601233333	0.032718968	ECM_AFFILIATED	1.33527446	1.396508078
PLXNC1	11.77124324	9.625073238	5.95E-72	11.77124324	8.9879	0.000252737	ECM_AFFILIATED	1.222977005	1.309676703
POMZP3	8.984627568	8.770460571	0.00201205	8.984627568	8.0697	0.017954048	ECM_GLYCOPROTEINS	1.024419128	1.113378139
PRSS3	10.25086703	4.438596418	1.05E-97	10.25086703	4.5678	2.23E-05	ECM_REGULATORS	2.309483914	2.244158463
PXDNL	4.879395135	4.525718948	0.019049931	4.879395135	1.191	0.000143555	ECM_GLYCOPROTEINS	1.078148067	4.096889282
RSPO4	7.830937838	4.132178548	7.23E-75	7.830937838	3.5728	0.011418238	ECM_GLYCOPROTEINS	1.895111198	2.191820935
SDC2	12.40801514	11.08943676	8.31E-19	12.40801514	9.746033333	1.73E-05	ECM_AFFILIATED	1.118903999	1.273134896
SEMA3G	9.77027027	8.245383178	3.24E-36	9.77027027	7.9428	0.012954564	ECM_AFFILIATED	1.184938293	1.230078848
SEMA4F	9.897177838	8.64873478	1.56E-61	9.897177838	7.4915	7.67E-06	ECM_AFFILIATED	1.144349791	1.321120982
SEMA5B	7.747103243	6.875239711	8.04E-07	7.747103243	6.275633333	0.039707245	ECM_AFFILIATED	1.126812092	1.234473531
SEMA6C	10.22548216	8.340432867	1.32E-86	10.22548216	7.028133333	1.89E-09	ECM_AFFILIATED	1.226013365	1.45493571
SEMA6D	9.26345027	7.734931101	3.03E-22	9.26345027	6.0081	1.60E-06	ECM_AFFILIATED	1.197612513	1.541826912
SERPINE2	11.39018649	10.72928134	0.000131694	11.39018649	8.789033333	0.013229428	ECM_REGULATORS	1.061598268	1.295954408
SERPINI1	10.84008162	7.954987905	1.71E-125	10.84008162	7.8606	2.79E-06	ECM_REGULATORS	1.362677323	1.379039974
SFTPC	4.442125405	2.577904349	4.26E-10	4.442125405	2.310866667	0.039079345	ECM_AFFILIATED	1.723153696	1.92227681
SFTPD	6.90176	5.259608979	8.59E-14	6.90176	2.418933333	3.92E-11	ECM_AFFILIATED	1.312219222	2.853224562
SLIT3	13.37917622	9.668866259	2.86E-106	13.37917622	11.43516667	0.007124135	ECM_GLYCOPROTEINS	1.383737851	1.17000273
SPOCK2	14.14896054	10.60871472	1.01E-112	14.14896054	10.583	0.000102788	PROTEOGLYCANS	1.333711097	1.336951766
SPOCK3	11.90596919	3.707118016	1.65E-216	11.90596919	6.974433333	0.000318986	PROTEOGLYCANS	3.211650975	1.707087676
TECTA	7.924528108	5.122050447	6.88E-155	7.924528108	6.03	8.13E-06	ECM_GLYCOPROTEINS	1.547139801	1.314183766
THBS3	10.26385081	9.852804514	6.32E-08	10.26385081	8.5171	4.49E-06	ECM_GLYCOPROTEINS	1.04171871	1.205087508
TLL2	6.556991892	4.882329344	5.76E-36	6.556991892	1.8899	6.51E-05	ECM_REGULATORS	1.34300483	3.46949145
TNR	10.0256827	3.439133799	7.72E-148	10.0256827	5.1753	0.000275786	ECM_GLYCOPROTEINS	2.915176695	1.937217688
WFIKKN1	5.993617838	5.01520065	4.90E-16	5.993617838	3.023966667	1.31E-05	SECRETED_FACTORS	1.195090337	1.982038329
WNT10A	6.717854054	5.955984663	0.000201986	6.717854054	0.9246	0.000316304	SECRETED_FACTORS	1.127916614	7.265686842
WNT6	6.908831351	3.787265065	3.09E-87	6.908831351	3.946366667	0.008433014	SECRETED_FACTORS	1.824227043	1.75068156
WNT8B	3.780857297	1.750456843	6.69E-70	3.780857297	1.090333333	0.022372075	SECRETED_FACTORS	2.159926028	3.467615987
VWA3A	3.748077838	2.928454397	1.95E-06	3.748077838	1.369266667	0.027707901	ECM_GLYCOPROTEINS	1.279882603	2.737288455
VWA5B1	5.173526486	1.851240827	2.30E-91	5.173526486	0.762466667	0.000686614	ECM_GLYCOPROTEINS	2.794626399	6.785249392
VWA7	8.472305946	6.558491642	2.39E-46	8.472305946	3.6214	1.14E-06	ECM_GLYCOPROTEINS	1.291807081	2.339511224
VWDE	6.871858919	4.220677286	1.19E-36	6.871858919	2.9824	0.007764324	ECM_GLYCOPROTEINS	1.62814128	2.304137245

<b>VWF</b>	13.35014973	12.18628817	1.73E-24	13.35014973	10.47066667	0.00078012	ECM_GLYCOPROTEINS	1.09550583	1.275004749
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**Prostate Adenocarcinoma (PRAD)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
ADAM15	12.56629069	12.14472699	4.29E-23	12.56629069	12.10831538	5.83E-10	ECM_REGULATORS	1.034711665	1.037823206
ADAM2	4.134672993	0.362217648	0	4.134672993	1.482911538	4.51E-12	ECM_REGULATORS	11.41488555	2.78821284
ADAM21	3.768488504	2.877626653	2.41E-43	3.768488504	2.338698077	1.19E-09	ECM_REGULATORS	1.309582152	1.611361698
ADAM7	4.150734854	0.313866194	0	4.150734854	3.165875	0.020582095	ECM_REGULATORS	13.22453624	1.311086146
ADAMTS13	7.540296533	6.989568397	6.54E-21	7.540296533	7.038532692	3.25E-05	ECM_REGULATORS	1.078792867	1.071288131
AMELY	1.977266058	0.168306882	0	1.977266058	1.52765	0.010309323	ECM_GLYCOPROTEINS	11.74798104	1.294318763
ANGPTL3	3.583137409	2.322680441	1.76E-19	3.583137409	1.687676923	8.37E-09	SECRETED_FACTORS	1.542673433	2.123118092
ANXA3	11.4790792	9.036710645	7.77E-98	11.4790792	11.05941346	0.002989247	ECM_AFFILIATED	1.270271855	1.037946473
ANXA5	13.67889854	13.36582211	4.81E-12	13.67889854	13.50140192	0.006753936	ECM_AFFILIATED	1.023423656	1.013146532
BGLAP	4.259316423	4.091953305	0.008138452	4.259316423	3.490090385	6.72E-05	ECM_GLYCOPROTEINS	1.040900544	1.220402899
BMP6	7.630523905	6.598832126	7.14E-42	7.630523905	6.952392308	0.000753369	SECRETED_FACTORS	1.156344602	1.097539317
BMP8A	4.591429015	4.232100533	1.52E-05	4.591429015	3.990276923	0.000348302	SECRETED_FACTORS	1.084905469	1.150654229
C17orf58	9.141172263	8.740792132	1.65E-24	9.141172263	8.603959615	1.04E-07	ECM_REGULATORS	1.045805932	1.062437839
C1QTNF9	3.549381752	2.205537056	8.72E-80	3.549381752	3.056867308	0.006489066	ECM_AFFILIATED	1.609304973	1.161117378
C1QTNF9B	4.549483394	2.16900492	1.07E-245	4.549483394	3.625119231	0.000765292	SECRETED_FACTORS	2.09749796	1.254988624
CBLN3	7.151815876	6.728865872	6.54E-15	7.151815876	6.919782692	0.014634176	SECRETED_FACTORS	1.062856061	1.03353186
CHRD	8.505031204	7.603469806	6.79E-25	8.505031204	7.650155769	2.87E-07	SECRETED_FACTORS	1.118572365	1.111746148
CLEC19A	0.479589051	0.233499255	5.87E-21	0.479589051	0.218098077	0.004490824	ECM_AFFILIATED	2.053921115	2.198960476
COL12A1	11.61680091	11.28133064	0.002908034	11.61680091	11.17878462	0.032141244	COLLAGENS	1.029736765	1.039182819
COL26A1	8.418630109	4.616069192	1.53E-214	8.418630109	7.593005769	6.46E-05	COLLAGENS	1.823766014	1.10873485
COL28A1	7.639440876	5.460073659	4.27E-100	7.639440876	6.907826923	0.000477008	COLLAGENS	1.39914612	1.105910869
COL2A1	7.128061861	4.01038687	3.66E-99	7.128061861	5.250392308	0.000418909	COLLAGENS	1.77740006	1.35762462
COL8A1	10.06752664	9.77603274	0.012559713	10.06752664	9.683448077	0.032960878	COLLAGENS	1.029817198	1.039663409
COL9A2	11.81276861	8.581879525	2.55E-275	11.81276861	10.63039808	1.16E-05	COLLAGENS	1.376478029	1.111225424
COLEC12	11.44653285	8.34171468	1.08E-218	11.44653285	10.26007115	1.45E-13	ECM_AFFILIATED	1.372203832	1.115638739
COMP	9.557698358	7.104933444	1.04E-49	9.557698358	7.236878846	5.44E-12	ECM_GLYCOPROTEINS	1.34521997	1.320693432
CRELD1	11.41088631	10.18444042	2.54E-229	11.41088631	11.17338077	0.000253054	ECM_GLYCOPROTEINS	1.120423494	1.021256373
CRELD2	11.05154106	10.35796178	5.20E-82	11.05154106	10.53314423	8.37E-08	ECM_GLYCOPROTEINS	1.066960981	1.049215772
CSPG5	6.38787281	6.035213482	0.001676539	6.38787281	5.442238462	2.46E-09	ECM_AFFILIATED	1.058433613	1.173758345
CST2	6.21092354	3.461879706	4.79E-111	6.21092354	3.768309615	6.92E-11	ECM_REGULATORS	1.794089936	1.648198841
CXCL11	7.332879562	6.430271868	1.31E-14	7.332879562	5.970665385	3.42E-08	SECRETED_FACTORS	1.140368512	1.228151151
EGF	7.954211131	5.399798551	4.98E-94	7.954211131	7.319434615	0.004546676	SECRETED_FACTORS	1.473057014	1.086724802
ELFN2	1.661190876	1.092207828	7.22E-17	1.661190876	0.613257692	8.90E-09	ECM_AFFILIATED	1.520947601	2.708797455
FAM20C	10.87980985	10.66803229	0.000357648	10.87980985	10.54674038	0.000186006	ECM_REGULATORS	1.019851605	1.031580323
FBLN7	7.832843066	7.265773589	1.60E-13	7.832843066	7.60685	0.045782132	ECM_GLYCOPROTEINS	1.078046676	1.029709152
FGF13	10.25233339	7.112633575	7.04E-241	10.25233339	9.548055769	5.04E-09	SECRETED_FACTORS	1.441425779	1.073761365
FGF17	3.781531569	3.084250689	4.51E-13	3.781531569	3.041359615	0.000711838	SECRETED_FACTORS	1.226077887	1.243368772
FGF22	4.087429197	2.386718292	1.00E-158	4.087429197	3.379028846	1.40E-05	SECRETED_FACTORS	1.712572955	1.209646139
FGL1	4.632033394	2.752218875	3.45E-32	4.632033394	2.796446154	1.01E-07	ECM_GLYCOPROTEINS	1.683017814	1.656399995
FMOD	12.54958923	10.22524725	7.62E-114	12.54958923	12.08655	0.025292538	PROTEOGLYCANS	1.227314013	1.03831029
FNDC8	1.531914416	1.155008381	9.93E-18	1.531914416	1.012915385	3.90E-05	ECM_GLYCOPROTEINS	1.326323203	1.512381428
GRIFIN	0.356318978	0.180962139	3.34E-13	0.356318978	0.113598077	0.007913077	ECM_AFFILIATED	1.969025013	3.136663822

HPX	6.061289234	4.92717544	1.36E-16	6.061289234	4.853032692	6.20E-13	ECM_AFFILIATED	1.230175241	1.24896938
HYAL3	7.789852007	7.072909508	5.04E-59	7.789852007	7.439005769	0.000124884	ECM_REGULATORS	1.10136458	1.047163055
IGFBP2	13.1865135	11.47178885	6.96E-63	13.1865135	12.61118654	8.09E-06	ECM_GLYCOPROTEINS	1.149473171	1.045620368
IMPG1	2.899341058	2.702249432	0.003208785	2.899341058	2.289076923	0.001186588	PROTEOGLYCANS	1.072936134	1.266598352
MMP10	6.957133942	4.567359392	2.91E-51	6.957133942	5.136382692	6.33E-10	ECM_REGULATORS	1.523228926	1.354481229
MMP26	4.537673905	0.223018302	0	4.537673905	1.963844231	1.98E-17	ECM_REGULATORS	20.34664362	2.310607855
MUC2	5.850437044	2.835298702	2.88E-70	5.850437044	4.459536538	6.60E-05	ECM_AFFILIATED	2.063428816	1.31189351
NGLY1	10.34824635	9.952478398	8.01E-55	10.34824635	10.10415192	5.02E-06	ECM_REGULATORS	1.039765769	1.024157834
NTN5	4.677058577	3.6458902	1.12E-51	4.677058577	4.105321154	0.001417172	BASEMENT_MEMBRANES	1.282830343	1.139267405
NTN5	4.677058577	3.6458902	1.12E-51	4.677058577	4.105321154	0.001417172	ECM_GLYCOPROTEINS	1.282830343	1.139267405
OGFOD2	9.273159124	9.05689676	1.06E-13	9.273159124	8.968367308	2.85E-05	ECM_REGULATORS	1.023878197	1.033985207
OVGP1	7.824262956	6.235019901	2.80E-108	7.824262956	7.207419231	8.65E-05	ECM_AFFILIATED	1.254889813	1.085584549
P4HA3	7.429637044	6.320355277	2.09E-39	7.429637044	6.980713462	0.012567498	ECM_REGULATORS	1.175509401	1.064309126
P4HTM	11.41305967	10.24684042	3.83E-95	11.41305967	10.85587885	4.05E-15	ECM_REGULATORS	1.113812571	1.051325262
PCSK6	9.762374818	9.09198687	5.03E-11	9.762374818	8.078165385	1.48E-21	ECM_REGULATORS	1.073733933	1.2084891
PLXNA3	11.13156971	10.71539893	4.02E-18	11.13156971	10.58356923	1.81E-10	ECM_AFFILIATED	1.03883857	1.051778419
PLXNB2	14.09927755	13.66023837	1.24E-30	14.09927755	13.95608269	0.022355217	ECM_AFFILIATED	1.032139936	1.010260391
PLXNB3	10.58575438	8.221180139	6.01E-97	10.58575438	9.696528846	4.68E-14	ECM_AFFILIATED	1.287619806	1.091705552
PXDN	11.87006752	11.23308719	1.17E-15	11.87006752	11.20007308	2.62E-07	ECM_GLYCOPROTEINS	1.056705723	1.059820542
REG4	6.733936131	2.564085512	2.19E-142	6.733936131	5.875882692	0.005435371	ECM_AFFILIATED	2.626252557	1.146029709
SEMA4A	11.20312664	9.642025475	3.93E-108	11.20312664	10.9995	0.007196581	ECM_AFFILIATED	1.161905937	1.018512354
SERPINA11	5.804103832	2.231528997	2.81E-126	5.804103832	3.795336538	1.58E-07	ECM_REGULATORS	2.600953804	1.529272509
SERPINB6	13.22095328	11.80610427	2.39E-290	13.22095328	12.768975	2.97E-07	ECM_REGULATORS	1.119840464	1.035396599
SFTPA2	10.35024635	3.910794839	1.37E-232	10.35024635	8.824530769	1.04E-06	ECM_AFFILIATED	2.646583822	1.172894811
SLIT1	8.22922354	5.280612647	6.49E-116	8.22922354	5.680530769	2.56E-18	ECM_GLYCOPROTEINS	1.558384243	1.44867159
SMOC2	11.8738542	9.225192917	1.61E-159	11.8738542	11.49413654	0.002439051	ECM_GLYCOPROTEINS	1.28711175	1.033035771
SPOCK1	13.64525201	9.115664866	5.92e-323	13.64525201	12.75562885	7.36E-07	PROTEOGLYCANS	1.496901456	1.069743575
SPON2	14.29966898	10.10096099	0	14.29966898	12.26757115	2.79E-10	ECM_GLYCOPROTEINS	1.415674112	1.165647935
SSPO	7.194232847	5.460666385	6.48E-84	7.194232847	5.804007692	7.04E-12	ECM_GLYCOPROTEINS	1.317464269	1.239528482
ST14	13.29507026	11.63454864	3.03E-49	13.29507026	12.62860577	3.55E-14	ECM_REGULATORS	1.142723338	1.052774194
TECTB	1.510285401	0.862595251	7.07E-24	1.510285401	0.963417308	0.016485497	ECM_GLYCOPROTEINS	1.75086218	1.567633661
TGM2	13.40505931	12.0307264	2.41E-63	13.40505931	13.08545385	0.049005623	ECM_REGULATORS	1.114235239	1.024424484
TGM3	7.792613504	3.787472724	9.14E-186	7.792613504	5.371325	1.06E-16	ECM_REGULATORS	2.057470528	1.450780488
TGM6	0.391103467	0.268784918	0.003624613	0.391103467	0.150478846	0.017392387	ECM_REGULATORS	1.45507966	2.59905945
THBS4	10.49291095	7.79211316	1.75E-109	10.49291095	8.660148077	3.61E-12	ECM_GLYCOPROTEINS	1.346606592	1.211631817
TLL2	6.334877555	4.833412567	4.45E-81	6.334877555	5.997759615	0.029956531	ECM_REGULATORS	1.310642836	1.056207311
WFIKKN1	5.670917883	4.997258618	3.41E-21	5.670917883	4.839794231	1.36E-06	SECRETED_FACTORS	1.134805764	1.171727064
WNT10B	4.504440876	4.221638565	0.000795608	4.504440876	3.694890385	7.26E-07	SECRETED_FACTORS	1.066988755	1.219100002
WNT7B	9.522419708	7.099890572	3.58E-52	9.522419708	9.185626923	0.029049445	SECRETED_FACTORS	1.341206545	1.036665193
WNT8B	3.562463321	1.688342399	4.35E-171	3.562463321	3.150292308	0.01341573	SECRETED_FACTORS	2.110036047	1.1308358
ZP1	4.488258029	1.994551615	1.25E-239	4.488258029	3.036090385	1.34E-08	ECM_GLYCOPROTEINS	2.250259154	1.478301849
ZP3	8.536071898	7.755730315	3.12E-33	8.536071898	7.248788462	3.40E-14	ECM_GLYCOPROTEINS	1.100614842	1.177586012



**Rectum Adenocarcinoma (READ)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
ACAN	8.121383495	6.323319026	4.39E-14	8.121383495	4.5152	5.36E-10	PROTEOGLYCANS	1.284354539	1.798676359
ADAMTS12	8.976704854	7.868232738	1.90E-06	8.976704854	6.25624	1.72E-06	ECM_REGULATORS	1.140879427	1.434840232
ADAMTS14	7.777338835	6.534747141	2.43E-09	7.777338835	6.35842	0.000155491	ECM_REGULATORS	1.190151458	1.223155884
ADAMTS2	9.875135922	9.391779411	0.018401857	9.875135922	7.97738	0.000365197	ECM_REGULATORS	1.051465914	1.23789213
ADAMTSL5	7.255732039	6.033847598	5.07E-10	7.255732039	6.23908	0.000935168	ECM_REGULATORS	1.202505022	1.162949031
AGT	9.451233981	8.416494983	0.004526609	9.451233981	7.08583	6.47E-06	ECM_REGULATORS	1.122941795	1.333821723
AMELX	2.64708835	0.194335534	6.29E-252	2.64708835	0.11755	2.29E-05	ECM_GLYCOPROTEINS	13.62122665	22.518829
ANXA3	11.47964563	8.926245599	1.13E-21	11.47964563	10.30756	4.52E-06	ECM_AFFILIATED	1.286055319	1.11371126
ANXA4	13.23804854	11.82699493	2.91E-25	13.23804854	12.90817	0.033980463	ECM_AFFILIATED	1.119307873	1.025555795
AREG	11.25790291	6.670819537	6.37E-48	11.25790291	10.0434	0.026168835	SECRETED_FACTORS	1.687634158	1.120925475
BMP4	10.89172427	7.75824932	9.47E-62	10.89172427	9.50031	0.002082775	SECRETED_FACTORS	1.403889437	1.146459881
BMP7	9.837092233	7.932301201	5.28E-07	9.837092233	8.0239	0.002984458	SECRETED_FACTORS	1.240130951	1.225973932
CCL20	10.43490388	5.551004688	4.54E-52	10.43490388	8.93931	0.00264275	SECRETED_FACTORS	1.879822567	1.167305294
CCL24	8.813801942	2.305375744	3.47E-210	8.813801942	7.60971	0.027168822	SECRETED_FACTORS	3.823152024	1.158230989
COL10A1	7.721826214	6.694443984	0.005019957	7.721826214	2.16437	9.59E-07	COLLAGENS	1.153467896	3.567701555
COL11A1	8.975939806	7.317275999	1.52E-05	8.975939806	4.44583	1.60E-07	COLLAGENS	1.22667777	2.018957046
COL12A1	12.51784175	11.1207018	5.55E-08	12.51784175	11.27396	0.006744425	COLLAGENS	1.125634153	1.110332283
COL1A1	15.60103883	14.56758602	0.000803474	15.60103883	13.49192	0.000170636	COLLAGENS	1.07094194	1.156324588
COL1A2	15.23048738	14.3745589	0.001435371	15.23048738	14.13734	0.024545588	COLLAGENS	1.059544678	1.077323413
COL4A1	13.68104563	13.10463265	0.002643182	13.68104563	12.41511	0.000737651	COLLAGENS	1.043985436	1.101967331
COL4A1	13.68104563	13.10463265	0.002643182	13.68104563	12.41511	0.000737651	BASEMENT_MEMBRANES	1.043985436	1.101967331
COL5A1	12.7487699	11.66527755	9.19E-06	12.7487699	11.41928	0.002752162	COLLAGENS	1.092881832	1.11642502
COL5A2	12.24646117	11.39125581	0.000123375	12.24646117	10.88569	0.001757219	COLLAGENS	1.075075599	1.125005504
COL9A3	8.705231068	6.830510682	9.21E-14	8.705231068	6.76355	0.00176223	COLLAGENS	1.274462697	1.287080168
CSF2	3.044507767	1.948265976	4.79E-07	3.044507767	1.07041	0.000920983	SECRETED_FACTORS	1.562675633	2.844244511
CSF3	4.945138835	2.809586086	3.72E-14	4.945138835	3.2849	0.026547626	SECRETED_FACTORS	1.760095147	1.505415335
CST1	8.289738835	4.675118846	2.47E-20	8.289738835	2.1563	1.70E-08	ECM_REGULATORS	1.773161091	3.844427415
CST2	4.538435922	3.474976626	0.000155135	4.538435922	1.00058	9.63E-07	ECM_REGULATORS	1.306033511	4.535805155
CST4	2.991103883	2.050409364	0.000179375	2.991103883	0.37357	0.000220894	ECM_REGULATORS	1.458783761	8.006809657
CSTL1	1.114260194	0.510782866	4.90E-11	1.114260194	0	0.001501164	ECM_REGULATORS	2.181475279	Inf
CTSV	9.022127184	7.231072045	9.79E-12	9.022127184	7.6191	0.00094036	ECM_REGULATORS	1.247688742	1.184146052
CXCL1	10.30440291	6.556732015	1.62E-32	10.30440291	8.08621	6.20E-05	SECRETED_FACTORS	1.571576036	1.274317995
CXCL11	7.212341748	6.342739488	0.001063379	7.212341748	4.78896	8.75E-05	SECRETED_FACTORS	1.137101999	1.506035078
CXCL2	8.884470874	6.828612117	3.19E-16	8.884470874	7.1593	0.000476769	SECRETED_FACTORS	1.301065388	1.240969211
CXCL3	9.6049	4.889910098	6.54E-94	9.6049	7.42962	1.45E-05	SECRETED_FACTORS	1.964228341	1.292784826
CXCL5	7.498083495	4.732781069	2.21E-18	7.498083495	4.50304	0.003513402	SECRETED_FACTORS	1.584286994	1.665115898
CXCL6	5.950331068	4.336360895	6.17E-07	5.950331068	4.65486	0.049647524	SECRETED_FACTORS	1.372194615	1.278305055
CXCL8	9.977666019	7.779989041	1.05E-15	9.977666019	7.32096	0.000264803	SECRETED_FACTORS	1.282478159	1.362890389
EPYC	3.355069903	2.536326265	0.003234883	3.355069903	0.37402	0.001558463	PROTEOGLYCANS	1.322806908	8.970295447
F12	8.619692233	7.100190636	1.05E-09	8.619692233	7.77414	0.024367298	ECM_REGULATORS	1.214008563	1.108764729
F2	3.100887379	2.08297719	0.003869562	3.100887379	0.84363	0.005895919	ECM_REGULATORS	1.48868043	3.675648541
F7	4.950301942	3.873236448	0.000364096	4.950301942	2.71598	0.00172469	ECM_REGULATORS	1.278078942	1.82265773

<b>FGF18</b>	5.941838835	4.782199904	4.22E-07	5.941838835	3.92801	7.18E-06	SECRETED_FACTORS	1.242490685	1.512684243
<b>FGF19</b>	4.928401942	1.643065402	4.15E-38	4.928401942	0.7498	1.63E-05	SECRETED_FACTORS	2.999516596	6.572955377
<b>FGF20</b>	2.666450485	1.844686926	6.89E-06	2.666450485	0.66708	0.029385049	SECRETED_FACTORS	1.445475895	3.997197466
<b>FGF23</b>	1.0403	0.469638924	9.46E-08	1.0403	0.07043	0.048989808	SECRETED_FACTORS	2.215106002	14.77069431
<b>FGF4</b>	1.201363107	0.406171312	4.61E-08	1.201363107	0.24826	0.011443495	SECRETED_FACTORS	2.957774398	4.839132791
<b>LAMC2</b>	12.39525922	9.831347513	6.97E-11	12.39525922	11.55936	0.005519794	ECM_GLYCOPROTEINS	1.26078945	1.072313625
<b>LAMC2</b>	12.39525922	9.831347513	6.97E-11	12.39525922	11.55936	0.005519794	BASEMENT_MEMBRANES	1.26078945	1.072313625
<b>LOXL2</b>	10.8055301	10.07428463	3.11E-05	10.8055301	9.27297	6.24E-05	ECM_REGULATORS	1.072585349	1.165271763
<b>MMP1</b>	9.842854369	6.627750723	3.27E-16	9.842854369	6.36902	8.99E-05	ECM_REGULATORS	1.48509725	1.545426827
<b>MMP10</b>	5.890628155	4.533528019	0.000210496	5.890628155	3.1467	0.000606095	ECM_REGULATORS	1.299347469	1.872001829
<b>MMP11</b>	11.32738252	9.858270961	2.86E-07	11.32738252	7.73634	2.58E-08	ECM_REGULATORS	1.149023249	1.464178478
<b>MMP20</b>	1.184235922	0.592134173	3.78E-07	1.184235922	0.19067	0.018847858	ECM_REGULATORS	1.999945243	6.210918982
<b>MMP3</b>	9.020161165	4.142292602	6.47E-40	9.020161165	4.97275	2.72E-05	ECM_REGULATORS	2.177577016	1.813918087
<b>MMP7</b>	9.135129126	8.135262776	0.01469889	9.135129126	3.79349	1.09E-08	ECM_REGULATORS	1.122905231	2.408106816
<b>MMP8</b>	2.446820388	1.926423533	0.021713963	2.446820388	0.32454	0.000617017	ECM_REGULATORS	1.270136264	7.539349197
<b>MMP9</b>	10.14470097	9.293933642	0.003084157	10.14470097	9.02294	0.038340081	ECM_REGULATORS	1.091540069	1.124323222
<b>OVGP1</b>	7.375123301	6.287084938	8.34E-11	7.375123301	6.13266	0.000145768	ECM_AFFILIATED	1.173059275	1.20259778
<b>PLOD3</b>	12.61662621	11.61495715	3.72E-22	12.61662621	11.3423	8.06E-08	ECM_REGULATORS	1.086239583	1.112351658
<b>PODNL1</b>	7.089570874	6.538444441	0.013002392	7.089570874	5.7042	0.000324086	PROTEOGLYCANS	1.084290145	1.242868566
<b>PRSS2</b>	4.21358835	2.974642102	0.000368052	4.21358835	1.02447	0.003754459	ECM_REGULATORS	1.416502626	4.112944595
<b>REG1A</b>	8.111842718	2.150232005	1.82E-63	8.111842718	2.76355	0.000375585	ECM_AFFILIATED	3.77254301	2.935297975
<b>REG1B</b>	5.031982524	0.604387787	1.16E-111	5.031982524	1.36788	0.005630639	ECM_AFFILIATED	8.3257515	3.678672489
<b>REG3A</b>	6.186950485	0.691989679	1.39E-119	6.186950485	1.66069	0.001777828	ECM_AFFILIATED	8.940813242	3.725530042
<b>SDC4</b>	13.36613495	12.80251828	0.001357438	13.36613495	12.6837	0.003653586	ECM_AFFILIATED	1.044023891	1.053804091
<b>SERPINA4</b>	3.886332039	2.266563977	3.19E-06	3.886332039	0.25052	1.30E-05	ECM_REGULATORS	1.714635932	15.51306099
<b>SERPINB5</b>	9.847217476	5.535738191	5.12E-19	9.847217476	8.4504	0.026939751	ECM_REGULATORS	1.778844507	1.165296019
<b>SERPINE2</b>	11.52373301	10.74347755	0.001017733	11.52373301	10.41633	0.003728025	ECM_REGULATORS	1.072625968	1.106314125
<b>SFTA2</b>	4.850459223	2.87030541	1.75E-08	4.850459223	0.84392	9.01E-07	ECM_AFFILIATED	1.689875651	5.747534391
<b>SPON2</b>	10.77283689	10.24663644	0.024005815	10.77283689	9.83802	0.004386635	ECM_GLYCOPROTEINS	1.051353482	1.095020837
<b>SRPX2</b>	9.234133981	7.587607153	8.55E-13	9.234133981	6.94982	1.97E-05	ECM_GLYCOPROTEINS	1.217002119	1.328686783
<b>SULF2</b>	12.57878058	11.71216418	1.99E-07	12.57878058	11.95181	0.021577686	ECM_REGULATORS	1.07399285	1.052458212
<b>TGFBI</b>	14.52063592	12.17238885	5.21E-32	14.52063592	11.6497	2.44E-09	ECM_GLYCOPROTEINS	1.192915877	1.246438614
<b>TSPEAR</b>	4.275168932	2.483923895	3.45E-18	4.275168932	2.73338	0.018454626	ECM_GLYCOPROTEINS	1.721135233	1.564059491
<b>WNT11</b>	8.472060194	5.899689413	1.01E-27	8.472060194	7.02067	0.024158487	SECRETED_FACTORS	1.436018	1.206731009
<b>WNT2</b>	7.47143301	5.44718666	1.39E-11	7.47143301	2.96796	5.57E-10	SECRETED_FACTORS	1.371613179	2.517363108
<b>VWA2</b>	8.569839806	5.360233535	1.40E-26	8.569839806	4.93176	4.92E-09	ECM_GLYCOPROTEINS	1.598781051	1.737683871
<b>ZP3</b>	8.856968932	7.783635916	1.93E-13	8.856968932	7.40735	1.90E-05	ECM_GLYCOPROTEINS	1.137896097	1.195700073

## Sarcoma (SARC)

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
ADAM12	10.89949015	8.386105051	3.56E-56	10.89949015	7.22335	0.032551242	ECM_REGULATORS	1.299708278	1.50892455
ADAMTS6	7.747486742	5.717910971	3.51E-76	7.747486742	5.252	0.030436854	ECM_REGULATORS	1.354950572	1.475149799
ADAMTS7	10.10905682	7.996091801	2.51E-111	10.10905682	7.2841	0.004434144	ECM_REGULATORS	1.26424972	1.387825101
AMH	6.441102652	4.809554736	2.85E-27	6.441102652	2.6229	0.019732308	SECRETED_FACTORS	1.339230554	2.455717965
ANXA5	14.19035417	13.35678082	1.95E-38	14.19035417	13.12465	0.033891719	ECM_AFFILIATED	1.062408252	1.081198673
BGLAP	4.464993561	4.085882626	2.50E-05	4.464993561	2.1235	0.028093098	ECM_GLYCOPROTEINS	1.092785567	2.102657669
BMP1	12.16980303	10.58460187	4.13E-122	12.16980303	10.2758	0.019172888	ECM_REGULATORS	1.149764835	1.184316844
COL1A1	18.04303598	14.62013411	1.35E-73	18.04303598	14.808	0.037129863	COLLAGENS	1.234122468	1.218465423
COL1A2	17.71674394	14.38451312	1.04E-92	17.71674394	15.02	0.04974141	COLLAGENS	1.231654057	1.179543538
COL5A1	14.92131023	11.71228787	4.24E-102	14.92131023	11.7459	0.017398671	COLLAGENS	1.273987661	1.270342011
COL5A2	14.23705114	11.41711507	2.59E-95	14.23705114	11.2083	0.004779968	COLLAGENS	1.246991999	1.270223953
COL5A3	11.24105492	9.395735251	3.29E-58	11.24105492	8.33285	0.041100551	COLLAGENS	1.196399709	1.349004833
COL6A1	16.40835038	13.11534005	8.46E-218	16.40835038	14.443	0.015269077	COLLAGENS	1.25108082	1.136076326
COL6A1	16.40835038	13.11534005	8.46E-218	16.40835038	14.443	0.015269077	BASEMENT_MEMBRANES	1.25108082	1.136076326
COL6A2	16.65895303	13.17268439	4.64E-172	16.65895303	14.4729	0.008329954	COLLAGENS	1.264658936	1.151044575
COL6A2	16.65895303	13.17268439	4.64E-172	16.65895303	14.4729	0.008329954	BASEMENT_MEMBRANES	1.264658936	1.151044575
COL6A3	15.57116515	12.53777336	4.14E-72	15.57116515	13.26485	0.044087104	BASEMENT_MEMBRANES	1.241940231	1.173866659
COL6A3	15.57116515	12.53777336	4.14E-72	15.57116515	13.26485	0.044087104	COLLAGENS	1.241940231	1.173866659
CTHRC1	10.79435	9.016966032	2.63E-29	10.79435	7.6714	0.047271785	ECM_GLYCOPROTEINS	1.197115522	1.407089971
FBLN7	9.52141553	7.237631285	1.00E-98	9.52141553	6.77405	0.023423373	ECM_GLYCOPROTEINS	1.315543049	1.405572077
FBN1	13.91629318	11.06802929	4.49E-134	13.91629318	11.3717	0.042504217	ECM_GLYCOPROTEINS	1.257341557	1.223765416
FBN2	10.41097576	7.095961652	3.40E-95	10.41097576	6.4834	0.022199914	ECM_GLYCOPROTEINS	1.467169112	1.605789517
FN1	17.24498068	15.10008369	1.02E-48	17.24498068	14.47775	0.013909119	ECM_GLYCOPROTEINS	1.142045371	1.191136791
GPC2	6.51081553	5.548603374	2.53E-13	6.51081553	3.4904	0.006192393	ECM_AFFILIATED	1.173415199	1.865349396
HAPLN3	9.578815152	8.507890854	5.42E-22	9.578815152	7.12765	0.02616298	PROTEOGLYCANS	1.12587424	1.343895274
LAMA4	13.19065265	10.84677364	5.35E-108	13.19065265	11.42485	0.048149884	ECM_GLYCOPROTEINS	1.216089972	1.15455806
LAMA4	13.19065265	10.84677364	5.35E-108	13.19065265	11.42485	0.048149884	BASEMENT_MEMBRANES	1.216089972	1.15455806
LAMC1	14.19221288	12.75481789	9.61E-69	14.19221288	12.84435	0.047868988	ECM_GLYCOPROTEINS	1.112694278	1.104938193
LAMC1	14.19221288	12.75481789	9.61E-69	14.19221288	12.84435	0.047868988	BASEMENT_MEMBRANES	1.112694278	1.104938193
LGALS1	14.94000682	12.62419549	1.07E-157	14.94000682	13.10245	0.015439831	ECM_AFFILIATED	1.18344229	1.140245284
LOXL2	12.28161061	10.10354265	4.11E-91	12.28161061	9.8336	0.028835334	ECM_REGULATORS	1.215574678	1.24894348
MFAP2	11.8167822	9.030276431	8.70E-62	11.8167822	9.1491	0.044804588	ECM_GLYCOPROTEINS	1.308573695	1.291578647
MMP14	15.24377083	12.86918534	3.17E-110	15.24377083	12.4847	0.002533468	ECM_REGULATORS	1.184517157	1.220996166
NTN3	2.861985985	2.082597484	3.01E-14	2.861985985	0	0.024550644	BASEMENT_MEMBRANES	1.374238664	Inf
NTN3	2.861985985	2.082597484	3.01E-14	2.861985985	0	0.024550644	ECM_GLYCOPROTEINS	1.374238664	Inf
PLOD3	12.31404697	11.6684407	8.07E-23	12.31404697	11.1919	0.040302748	ECM_REGULATORS	1.055329267	1.100264206
PLXNA1	11.93235492	11.50490271	7.92E-08	11.93235492	9.99535	0.003418437	ECM_AFFILIATED	1.037153918	1.193790605
PLXND1	12.96534848	11.83478347	5.30E-57	12.96534848	11.57105	0.023035923	ECM_AFFILIATED	1.095528998	1.120498873
PXDN	13.25719356	11.20015499	3.20E-75	13.25719356	11.33015	0.029560636	ECM_GLYCOPROTEINS	1.183661616	1.170081028
SERPINH1	14.63516136	12.62998523	1.80E-124	14.63516136	12.57145	0.00503397	ECM_REGULATORS	1.158763142	1.164158579
TIMP2	15.46104886	13.25271185	9.76E-151	15.46104886	14.0228	0.023940154	ECM_REGULATORS	1.16663284	1.102565027
VCAN	13.49171932	11.61817348	1.13E-37	13.49171932	10.5325	0.027976219	PROTEOGLYCANS	1.16125993	1.280960771

**Stomach Adenocarcinoma (STAD)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
ACAN	8.278879556	6.323319026	8.86E-64	8.278879556	4.600433333	9.35E-27	PROTEOGLYCANS	1.309261722	1.799586899
ADAM10	12.388144	12.04475783	5.17E-22	12.388144	11.46264444	5.49E-14	ECM_REGULATORS	1.02850918	1.080740492
ADAM12	8.847993556	8.421758121	0.000639662	8.847993556	5.682261111	2.50E-21	ECM_REGULATORS	1.050611218	1.557125479
ADAM30	0.736926889	0.122202466	7.03E-121	0.736926889	0.242536111	0.040059193	ECM_REGULATORS	6.03037658	3.038421312
ADAM8	10.00042489	8.821557749	8.80E-43	10.00042489	8.363797222	4.78E-12	ECM_REGULATORS	1.133634804	1.195679979
ADAM9	13.004724	11.71561116	2.79E-96	13.004724	12.33549167	7.09E-05	ECM_REGULATORS	1.110033768	1.054252587
ADAMDEC1	8.29156	5.850329943	3.60E-79	8.29156	5.992755556	3.81E-10	ECM_REGULATORS	1.417280748	1.383597232
ADAMTS12	9.685602222	7.868232738	3.47E-58	9.685602222	6.703233333	2.55E-23	ECM_REGULATORS	1.230975563	1.444914975
ADAMTS14	8.340000444	6.534747141	3.46E-71	8.340000444	6.090702778	1.21E-20	ECM_REGULATORS	1.2762545	1.369300186
ADAMTS18	4.399408889	3.841406452	7.46E-07	4.399408889	1.812333333	5.52E-14	ECM_REGULATORS	1.145259931	2.427483293
ADAMTS2	10.93916133	9.391779411	2.39E-54	10.93916133	8.483675	4.98E-19	ECM_REGULATORS	1.164759185	1.289436634
ADAMTS4	10.26293044	9.106498629	2.26E-36	10.26293044	9.804319444	0.030943719	ECM_REGULATORS	1.126989731	1.046776424
ADAMTS6	6.972587333	5.681847736	8.00E-51	6.972587333	5.693872222	4.09E-08	ECM_REGULATORS	1.227168988	1.224577416
ADAMTS7	9.007179778	8.00658547	6.33E-41	9.007179778	7.857366667	2.44E-09	ECM_REGULATORS	1.124971414	1.146335682
ADAMTS9	9.756672667	8.971298469	7.25E-19	9.756672667	8.892827778	1.82E-05	ECM_REGULATORS	1.087542979	1.097139505
ADAMTSL2	8.415504	8.196535852	0.009711787	8.415504	7.401125	3.46E-06	ECM_REGULATORS	1.026714718	1.137057407
AEBP1	13.21165	12.81990476	4.19E-05	13.21165	12.73315833	0.046740666	ECM_GLYCOPROTEINS	1.030557578	1.037578396
AGRN	13.67810778	13.28611182	4.52E-10	13.67810778	12.150275	2.95E-16	BASEMENT_MEMBRANES	1.029504189	1.125744708
AGRN	13.67810778	13.28611182	4.52E-10	13.67810778	12.150275	2.95E-16	ECM_GLYCOPROTEINS	1.029504189	1.125744708
AGT	10.06237956	8.416494983	7.73E-21	10.06237956	8.559566667	1.57E-05	ECM_REGULATORS	1.195554631	1.175571141
AMELX	1.047598889	0.194335534	6.80E-124	1.047598889	0.123505556	0.000113839	ECM_GLYCOPROTEINS	5.390670813	8.482200531
AMH	5.983361333	4.78537348	1.11E-24	5.983361333	3.845486111	4.06E-08	SECRETED_FACTORS	1.250343648	1.555944076
ANGPT2	8.988419333	8.572867687	7.50E-08	8.988419333	7.270194444	2.98E-16	SECRETED_FACTORS	1.048472887	1.23633823
ANXA13	8.118077111	3.513948788	6.63E-201	8.118077111	6.114466667	0.000117569	ECM_AFFILIATED	2.310243433	1.327683599
ANXA2	15.21144378	14.42235591	2.45E-26	15.21144378	14.64078889	0.000602821	ECM_AFFILIATED	1.054712827	1.038977059
ANXA4	13.40527578	11.82699493	3.37E-124	13.40527578	12.352425	9.78E-09	ECM_AFFILIATED	1.133447326	1.085234339
ANXA9	7.681538667	7.394649341	0.004400053	7.681538667	6.813055556	0.001951112	ECM_AFFILIATED	1.03879688	1.127473364
ASPN	10.49579844	8.261593676	1.41E-75	10.49579844	9.095838889	1.20E-05	PROTEOGLYCANS	1.270432662	1.153912088
ASTL	2.499896667	1.883944398	1.82E-16	2.499896667	1.901575	0.022822351	ECM_REGULATORS	1.32694822	1.314645316
BDNF	5.546703111	5.227870663	0.001870225	5.546703111	5.011527778	0.019961389	SECRETED_FACTORS	1.060987057	1.106788859
BGN	13.84422956	13.22871855	2.06E-10	13.84422956	11.46079167	8.30E-20	PROTEOGLYCANS	1.046528392	1.207964507
BMP1	10.882524	10.62402635	1.59E-06	10.882524	9.590019444	2.81E-18	ECM_REGULATORS	1.02433142	1.13477601
BMP8A	7.135248222	4.035349936	5.70E-269	7.135248222	5.140386111	1.31E-14	SECRETED_FACTORS	1.768185742	1.388076317
BMP8B	8.574716222	7.691986097	2.31E-26	8.574716222	8.096230556	0.02546795	SECRETED_FACTORS	1.114759714	1.059099807
C1QB	12.45423289	11.63344026	4.62E-20	12.45423289	11.96248889	0.043090101	ECM_AFFILIATED	1.070554591	1.041107165
C1QC	12.16901911	11.46874185	5.16E-16	12.16901911	11.65993333	0.029118777	ECM_AFFILIATED	1.061059641	1.043661123
C1QTNF5	9.951939556	9.320140306	2.89E-15	9.951939556	9.348008333	0.00247881	ECM_AFFILIATED	1.067788599	1.064605336
C1QTNF8	0.637034	0.303833429	1.83E-16	0.637034	0.184544444	0.013611429	ECM_AFFILIATED	2.096655401	3.451927268
CCL15	7.275021778	2.223574734	1.49E-244	7.275021778	4.281536111	2.07E-10	SECRETED_FACTORS	3.271768502	1.699161607
CCL18	9.123665556	6.923515264	1.12E-41	9.123665556	7.521652778	3.98E-05	SECRETED_FACTORS	1.317779366	1.212986803
CCL20	9.637511111	5.551004688	5.41E-148	9.637511111	7.533080556	3.32E-06	SECRETED_FACTORS	1.736174198	1.279358563
CCL22	7.707134889	5.887581409	2.34E-56	7.707134889	6.867469444	0.003011668	SECRETED_FACTORS	1.309049396	1.122267081

CCL26	4.449234889	3.004064052	7.58E-53	4.449234889	3.557566667	0.0055161	SECRETED_FACTORS	1.481071912	1.250639919
CCL3L3	5.978905556	5.520878763	8.70E-07	5.978905556	4.094302778	2.60E-08	SECRETED_FACTORS	1.082962661	1.46029883
CCL4	8.670872889	7.670621992	7.83E-34	8.670872889	7.705441667	0.000166742	SECRETED_FACTORS	1.130400233	1.125292133
CCL4L2	7.397370889	6.472151775	1.37E-22	7.397370889	5.884366667	4.55E-06	SECRETED_FACTORS	1.142953865	1.257122696
CCL7	2.993413111	2.256527657	2.15E-13	2.993413111	0.602138889	2.98E-11	SECRETED_FACTORS	1.326557244	4.971300088
CLCF1	8.466583333	7.683445344	3.46E-19	8.466583333	7.924052778	0.004851927	SECRETED_FACTORS	1.101925367	1.068466298
CLEC12A	5.365190889	5.125828423	0.021386655	5.365190889	4.759672222	0.021714527	ECM_AFFILIATED	1.046697323	1.127218564
CLEC19A	0.755869333	0.215233557	3.02E-83	0.755869333	0.34615	0.0234625	ECM_AFFILIATED	3.511856355	2.183646781
CLEC4A	6.372682	6.157361533	0.000444025	6.372682	5.747713889	0.001288989	ECM_AFFILIATED	1.0349696	1.108733337
CLEC4C	1.358348	1.146013977	0.001811117	1.358348	0.820880556	0.024102345	ECM_AFFILIATED	1.185280482	1.654745006
CLEC4E	6.200654667	5.399081813	9.80E-18	6.200654667	5.540661111	0.021048406	ECM_AFFILIATED	1.148464661	1.119118196
CLEC6A	2.161366889	1.388828189	6.59E-25	2.161366889	1.268141667	0.001362805	ECM_AFFILIATED	1.556252175	1.704357601
CLEC7A	8.015342222	7.78728395	0.007319763	8.015342222	7.28485	0.000402668	ECM_AFFILIATED	1.029285984	1.100275534
CNTF	4.351806889	4.014342028	1.95E-07	4.351806889	3.767913889	0.00138598	SECRETED_FACTORS	1.0840648	1.154964529
COCH	7.461280222	6.377181409	6.96E-19	7.461280222	6.107552778	0.000284567	ECM_GLYCOPROTEINS	1.169996546	1.221648096
COL10A1	8.806952222	6.694443984	1.68E-32	8.806952222	2.843163889	1.56E-26	COLLAGENS	1.315561418	3.097588661
COL11A1	7.916312889	7.317275999	0.001265841	7.916312889	2.879758333	1.71E-19	COLLAGENS	1.081866106	2.748950423
COL12A1	13.06926	11.1207018	2.63E-55	13.06926	11.40725278	4.92E-11	COLLAGENS	1.175218996	1.145697413
COL15A1	12.49456422	10.32914512	5.53E-91	12.49456422	11.86424722	0.003117688	COLLAGENS	1.209641657	1.053127433
COL15A1	12.49456422	10.32914512	5.53E-91	12.49456422	11.86424722	0.003117688	BASEMENT_MEMBRANES	1.209641657	1.053127433
COL1A1	16.64813133	14.56758602	2.66E-44	16.64813133	13.83975278	2.43E-20	COLLAGENS	1.142820184	1.20292115
COL1A2	15.78739756	14.3745589	1.04E-27	15.78739756	13.98214444	2.27E-12	COLLAGENS	1.098287444	1.129111319
COL27A1	10.41805889	9.554815529	1.51E-23	10.41805889	9.362458333	5.29E-06	COLLAGENS	1.090346418	1.112748225
COL3A1	15.90301956	14.11161066	7.60E-36	15.90301956	13.97098889	6.14E-13	COLLAGENS	1.126945743	1.138288756
COL4A1	14.312298	13.10463265	8.31E-39	14.312298	12.67856389	3.70E-15	BASEMENT_MEMBRANES	1.092155605	1.128857978
COL4A1	14.312298	13.10463265	8.31E-39	14.312298	12.67856389	3.70E-15	COLLAGENS	1.092155605	1.128857978
COL4A2	14.33370444	13.38834677	5.52E-26	14.33370444	13.50583611	3.76E-05	BASEMENT_MEMBRANES	1.070610486	1.061297081
COL4A2	14.33370444	13.38834677	5.52E-26	14.33370444	13.50583611	3.76E-05	COLLAGENS	1.070610486	1.061297081
COL5A1	13.50273756	11.66527755	1.64E-54	13.50273756	12.01277222	6.80E-10	COLLAGENS	1.157515327	1.124031764
COL5A2	12.74541111	11.39125581	2.49E-36	12.74541111	10.85533333	1.39E-16	COLLAGENS	1.118876735	1.17411513
COL5A3	9.881122667	9.425908801	4.62E-07	9.881122667	8.778491667	1.01E-07	COLLAGENS	1.048293897	1.125605974
COL6A3	14.51064333	12.4598605	8.50E-54	14.51064333	13.19758056	7.39E-08	COLLAGENS	1.164591155	1.099492689
COL6A3	14.51064333	12.4598605	8.50E-54	14.51064333	13.19758056	7.39E-08	BASEMENT_MEMBRANES	1.164591155	1.099492689
COL7A1	9.744857111	9.209955931	3.87E-05	9.744857111	7.794313889	2.76E-10	COLLAGENS	1.058078582	1.250252075
COL8A1	10.79210911	9.734282292	4.42E-16	10.79210911	8.962394444	3.22E-08	COLLAGENS	1.108670243	1.204154668
COL9A1	6.450487111	3.736297098	1.38E-87	6.450487111	5.324941667	0.004205413	COLLAGENS	1.726438488	1.211372352
CRLF3	9.634607778	8.988405963	8.11E-53	9.634607778	9.116372222	3.03E-07	SECRETED_FACTORS	1.071892816	1.056846687
CSF2	3.302427111	1.948265976	4.62E-37	3.302427111	0.944919444	1.38E-10	SECRETED_FACTORS	1.695059685	3.494929785
CSH2	0.594325778	0.421791061	0.00155685	0.594325778	0	0.005088807	SECRETED_FACTORS	1.409052569	Inf
CST1	9.709013556	4.675118846	2.64E-150	9.709013556	2.778716667	5.69E-29	ECM_REGULATORS	2.076741549	3.494063886
CST2	5.754231778	3.474976626	5.65E-62	5.754231778	2.942344444	1.26E-11	ECM_REGULATORS	1.655905175	1.955662189
CST4	3.510344444	2.050409364	1.58E-32	3.510344444	0.336883333	6.17E-13	ECM_REGULATORS	1.71202127	10.4200597
CSTL1	1.122179556	0.510782866	2.11E-40	1.122179556	0.398558333	0.001680396	ECM_REGULATORS	2.196979639	2.815596769
CTHRC1	9.938579333	9.01501605	1.02E-13	9.938579333	6.815844444	4.43E-24	ECM_GLYCOPROTEINS	1.102447215	1.45815818
CTSA	13.68244667	12.74033457	7.01E-98	13.68244667	12.935775	1.10E-07	ECM_REGULATORS	1.073947203	1.057721448
CTSC	12.74138356	12.11148266	4.42E-17	12.74138356	11.80356389	4.84E-10	ECM_REGULATORS	1.05200857	1.079452246

CTSD	15.30379733	15.17742801	0.015206619	15.30379733	14.86923333	0.001033208	ECM_REGULATORS	1.008326136	1.029225717
CTSH	12.65691889	12.1334887	3.32E-14	12.65691889	11.99398889	0.000511006	ECM_REGULATORS	1.043139298	1.055271854
CTSK	11.20556733	10.28017202	4.85E-20	11.20556733	10.68377222	0.010118662	ECM_REGULATORS	1.090017493	1.04883997
CTSS	12.70831622	11.2836481	5.68E-83	12.70831622	11.78918056	1.83E-06	ECM_REGULATORS	1.126259532	1.077964339
CTSV	8.511077778	7.231072045	8.96E-24	8.511077778	6.710436111	6.55E-08	ECM_REGULATORS	1.177014656	1.268334522
CXCL1	10.35122733	6.556732015	1.83E-133	10.35122733	7.379027778	1.01E-13	SECRETED_FACTORS	1.578717463	1.40279013
CXCL10	9.251250444	8.345707122	5.19E-12	9.251250444	7.073405556	6.91E-10	SECRETED_FACTORS	1.108504086	1.307891987
CXCL11	7.910064444	6.342739488	6.47E-34	7.910064444	5.419202778	2.20E-11	SECRETED_FACTORS	1.247105365	1.459636181
CXCL13	8.765910889	6.191608355	2.11E-55	8.765910889	7.303997222	0.001084193	SECRETED_FACTORS	1.415772831	1.20015255
CXCL2	9.360149778	6.828612117	1.53E-94	9.360149778	8.613730556	0.014581648	SECRETED_FACTORS	1.370725063	1.086654582
CXCL3	9.554197556	4.889910098	0	9.554197556	7.287705556	2.74E-09	SECRETED_FACTORS	1.953859553	1.311002137
CXCL5	9.53692	4.732781069	1.67E-200	9.53692	7.111666667	0.000316455	SECRETED_FACTORS	2.015077364	1.341024607
CXCL6	6.366538222	4.336360895	4.18E-38	6.366538222	3.777161111	5.06E-09	SECRETED_FACTORS	1.468175361	1.685535256
CXCL8	10.433952	7.779989041	2.64E-87	10.433952	7.613883333	7.65E-12	SECRETED_FACTORS	1.341126825	1.370385064
CXCL9	10.74646378	8.857239179	2.95E-39	10.74646378	8.282894444	6.14E-11	SECRETED_FACTORS	1.213297232	1.297428556
DMBT1	11.99001533	4.525549118	0	11.99001533	10.16876944	0.012122999	ECM_GLYCOPROTEINS	2.649405635	1.179101896
DMP1	2.035884889	1.378079634	1.36E-19	2.035884889	0.480102778	8.27E-07	ECM_GLYCOPROTEINS	1.477334719	4.24051887
DSPP	1.123386667	0.492041358	3.27E-49	1.123386667	0.292394444	0.000736743	ECM_GLYCOPROTEINS	2.28311431	3.842024662
EGFL6	6.883437333	5.7928	2.16E-13	6.883437333	4.733863889	1.99E-11	SECRETED_FACTORS	1.18827464	1.454084337
ELFN1	7.415106889	6.692110066	1.82E-15	7.415106889	6.562619444	1.25E-06	ECM_AFFILIATED	1.108037198	1.129900484
EMILIN2	9.602762444	9.320936395	0.000151632	9.602762444	8.726152778	2.61E-07	ECM_GLYCOPROTEINS	1.030235809	1.100457749
EPYC	2.809829111	2.536326265	0.042743585	2.809829111	0.821438889	8.07E-06	PROTEOGLYCANS	1.107834252	3.420618562
EYS	5.382029111	4.186296216	1.29E-67	5.382029111	4.80965	0.001866105	ECM_GLYCOPROTEINS	1.285630264	1.119006396
F12	7.983059778	7.100190636	2.32E-13	7.983059778	6.4057	6.84E-07	ECM_REGULATORS	1.124344428	1.246243155
F2	2.588225333	2.08297719	0.002941795	2.588225333	1.707352778	0.028329502	ECM_REGULATORS	1.242560574	1.51592885
FASLG	5.173983778	4.123316518	1.53E-27	5.173983778	4.484719444	0.012744792	SECRETED_FACTORS	1.254811207	1.15369174
FBN1	12.23087289	11.07984782	1.87E-36	12.23087289	11.70960833	0.032306184	ECM_GLYCOPROTEINS	1.103884556	1.044515968
FBN2	7.556540444	7.144258567	0.001216384	7.556540444	6.754675	0.002738049	ECM_GLYCOPROTEINS	1.057708141	1.118712661
FGF18	6.339259556	4.782199904	1.43E-44	6.339259556	5.788811111	0.044051313	SECRETED_FACTORS	1.325594848	1.095088341
FGF19	3.034992	1.643065402	4.96E-29	3.034992	0.393547222	8.85E-08	SECRETED_FACTORS	1.847152278	7.711887745
FGF20	2.316928444	1.844686926	1.48E-07	2.316928444	1.284263889	0.0120597	SECRETED_FACTORS	1.256000903	1.804090627
FGF23	1.570236889	0.469638924	8.85E-89	1.570236889	0.893605556	0.044880985	SECRETED_FACTORS	3.34349818	1.757192398
FGF3	0.985761556	0.3792103	1.18E-21	0.985761556	0.169688889	0.014830767	SECRETED_FACTORS	2.599511554	5.809228654
FGF4	1.301984889	0.406171312	4.31E-36	1.301984889	0.777297222	0.046871838	SECRETED_FACTORS	3.205506769	1.675015492
FNDC1	10.21330578	8.021472757	8.65E-48	10.21330578	6.933008333	1.44E-14	ECM_GLYCOPROTEINS	1.27324571	1.473142002
FNDC8	1.37334	1.161960077	1.24E-05	1.37334	0.842011111	0.005747283	ECM_GLYCOPROTEINS	1.181916683	1.631023608
HABP2	8.261086889	4.336069366	1.56E-95	8.261086889	6.897988889	0.019524205	ECM_REGULATORS	1.905201737	1.197608031
HAPLN3	9.011324	8.519183557	1.74E-08	9.011324	7.544372222	5.29E-12	PROTEOGLYCANS	1.057768499	1.194443187
HMCN1	9.091628444	8.682149989	0.000178737	9.091628444	8.467694444	0.033291012	ECM_GLYCOPROTEINS	1.047163255	1.073684048
HMCN1	9.091628444	8.682149989	0.000178737	9.091628444	8.467694444	0.033291012	BASEMENT_MEMBRANES	1.047163255	1.073684048
HPSE	8.955951333	7.671407813	9.42E-67	8.955951333	7.741355556	6.83E-09	ECM_REGULATORS	1.167445605	1.156897041
HSPG2	14.97598978	13.25809189	2.48E-130	14.97598978	14.51063056	0.019386653	PROTEOGLYCANS	1.129573539	1.032070227
HSPG2	14.97598978	13.25809189	2.48E-130	14.97598978	14.51063056	0.019386653	BASEMENT_MEMBRANES	1.129573539	1.032070227
HTRA3	10.85178089	9.118383418	9.67E-49	10.85178089	10.22499167	0.013140961	ECM_REGULATORS	1.190099208	1.061299729
HTRA4	3.934204222	3.38454054	4.68E-09	3.934204222	1.358152778	2.83E-18	ECM_REGULATORS	1.162404225	2.896731713
HYAL4	1.894647556	1.270187372	2.67E-13	1.894647556	1.178613889	0.012489327	ECM_REGULATORS	1.491628398	1.60752183

<b>IBSP</b>	3.688607111	3.204938584	0.000153379	3.688607111	0.204741667	1.69E-15	ECM_GLYCOPROTEINS	1.150913509	18.01590839
<b>IGFBP1</b>	3.393523111	3.017202849	0.023932315	3.393523111	0.921875	1.84E-07	ECM_GLYCOPROTEINS	1.12472488	3.681109815
<b>IGFBP3</b>	12.84558	12.42794167	6.25E-05	12.84558	11.58416944	8.76E-09	ECM_GLYCOPROTEINS	1.033604787	1.108890893
<b>IGFBP7</b>	14.015228	13.4033764	8.28E-23	14.015228	13.37991944	0.000902061	ECM_GLYCOPROTEINS	1.045649065	1.047482241
<b>IMPG1</b>	3.517167333	2.643124979	1.26E-32	3.517167333	2.164197222	5.70E-09	PROTEOGLYCANS	1.330685216	1.625160266
<b>KCP</b>	6.559173333	5.94710912	9.85E-08	6.559173333	5.566794444	0.000110822	ECM_GLYCOPROTEINS	1.102917939	1.178267565
<b>LAMA3</b>	11.85473089	9.61444257	3.10E-68	11.85473089	10.91919444	0.000760023	ECM_GLYCOPROTEINS	1.233012814	1.085678156
<b>LAMA3</b>	11.85473089	9.61444257	3.10E-68	11.85473089	10.91919444	0.000760023	BASEMENT_MEMBRANES	1.233012814	1.085678156
<b>LAMA5</b>	13.15700356	12.30493433	1.31E-36	13.15700356	12.47625278	0.002165853	ECM_GLYCOPROTEINS	1.069246141	1.054563721
<b>LAMA5</b>	13.15700356	12.30493433	1.31E-36	13.15700356	12.47625278	0.002165853	BASEMENT_MEMBRANES	1.069246141	1.054563721
<b>LAMB1</b>	12.69907889	12.17469109	1.11E-10	12.69907889	11.81490833	9.44E-09	ECM_GLYCOPROTEINS	1.043071959	1.07483516
<b>LAMB1</b>	12.69907889	12.17469109	1.11E-10	12.69907889	11.81490833	9.44E-09	BASEMENT_MEMBRANES	1.043071959	1.07483516
<b>LAMB3</b>	12.75482422	10.59206818	4.29E-55	12.75482422	11.19830556	4.78E-08	ECM_GLYCOPROTEINS	1.204186379	1.13899591
<b>LAMB3</b>	12.75482422	10.59206818	4.29E-55	12.75482422	11.19830556	4.78E-08	BASEMENT_MEMBRANES	1.204186379	1.13899591
<b>LAMC1</b>	13.27702556	12.78046788	1.71E-14	13.27702556	12.90646389	0.041783618	BASEMENT_MEMBRANES	1.038852856	1.028711324
<b>LAMC1</b>	13.27702556	12.78046788	1.71E-14	13.27702556	12.90646389	0.041783618	ECM_GLYCOPROTEINS	1.038852856	1.028711324
<b>LAMC2</b>	12.40610222	9.831347513	4.91E-42	12.40610222	10.18286111	5.52E-14	BASEMENT_MEMBRANES	1.261892351	1.218331674
<b>LAMC2</b>	12.40610222	9.831347513	4.91E-42	12.40610222	10.18286111	5.52E-14	ECM_GLYCOPROTEINS	1.261892351	1.218331674
<b>LGALS2</b>	8.024652222	5.195708291	9.57E-98	8.024652222	6.975825	0.015234767	ECM_AFFILIATED	1.544477052	1.150351711
<b>LGALS4</b>	13.34649756	4.772168591	0	13.34649756	11.476125	0.000123982	ECM_AFFILIATED	2.79673639	1.162979451
<b>LGALS8</b>	11.67006911	11.28158572	2.06E-19	11.67006911	11.18103056	7.80E-07	ECM_AFFILIATED	1.034435176	1.043738236
<b>LGALS9</b>	12.45254667	10.7310062	2.93E-136	12.45254667	11.70815	0.000319805	ECM_AFFILIATED	1.160426752	1.063579359
<b>LOX</b>	10.39019089	9.477059811	6.34E-19	10.39019089	9.126238889	3.76E-09	ECM_REGULATORS	1.096351727	1.138496484
<b>LOXL1</b>	10.46247156	9.197010938	1.18E-39	10.46247156	9.898422222	0.003246313	ECM_REGULATORS	1.137594771	1.056983762
<b>LOXL2</b>	11.24972867	10.07428463	1.46E-43	11.24972867	9.805772222	3.32E-13	ECM_REGULATORS	1.116677668	1.14725576
<b>LTBP2</b>	11.99744933	11.2331707	2.87E-16	11.99744933	11.34945556	0.003094461	ECM_GLYCOPROTEINS	1.068037659	1.057094702
<b>LUM</b>	13.825864	11.42934962	1.43E-55	13.825864	12.93931944	0.000267376	PROTEOGLYCANS	1.209680731	1.068515547
<b>MATN3</b>	7.007406667	6.493302349	2.07E-06	7.007406667	5.030638889	1.55E-09	ECM_GLYCOPROTEINS	1.079174554	1.392945672
<b>MFAP2</b>	9.757172	9.073903157	3.13E-07	9.757172	7.861247222	8.36E-12	ECM_GLYCOPROTEINS	1.075300434	1.241173534
<b>MMP1</b>	10.780812	6.627750723	7.17E-104	10.780812	7.7176	1.44E-10	ECM_REGULATORS	1.626617	1.396912512
<b>MMP10</b>	5.874649333	4.533528019	3.21E-14	5.874649333	3.301372222	4.46E-10	ECM_REGULATORS	1.29582288	1.779456825
<b>MMP11</b>	11.03384422	9.858270961	2.06E-17	11.03384422	7.622777778	1.60E-20	ECM_REGULATORS	1.119247408	1.44748339
<b>MMP12</b>	9.484455778	5.270708918	4.38E-118	9.484455778	6.371233333	4.41E-10	ECM_REGULATORS	1.799464916	1.48863733
<b>MMP14</b>	13.32404622	12.90987096	1.11E-06	13.32404622	12.34501944	1.11E-09	ECM_REGULATORS	1.032082061	1.079305406
<b>MMP15</b>	12.28964956	10.64786643	2.23E-113	12.28964956	11.66650833	0.001560212	ECM_REGULATORS	1.154188929	1.05341283
<b>MMP19</b>	8.931064444	7.890906824	3.67E-35	8.931064444	8.414872222	0.007063884	ECM_REGULATORS	1.131817248	1.061342847
<b>MMP3</b>	7.836351111	4.142292602	2.57E-93	7.836351111	4.33435	8.51E-10	ECM_REGULATORS	1.891790818	1.807964542
<b>MMP7</b>	9.637948222	8.135262776	3.92E-14	9.637948222	6.045947222	2.73E-10	ECM_REGULATORS	1.184712589	1.594117161
<b>MMP8</b>	2.553130667	1.926423533	1.32E-08	2.553130667	0.400688889	1.90E-09	ECM_REGULATORS	1.325321573	6.37185292
<b>MMP9</b>	10.09875089	9.293933642	6.57E-09	10.09875089	7.727013889	3.43E-12	ECM_REGULATORS	1.086595975	1.306940952
<b>MUC1</b>	13.74801689	10.66424837	1.82E-82	13.74801689	12.69809444	0.00287361	ECM_AFFILIATED	1.289168857	1.082683465
<b>MUC12</b>	8.543143556	4.426734354	1.46E-258	8.543143556	6.098691667	7.50E-06	ECM_AFFILIATED	1.929897498	1.400815785
<b>MUC13</b>	13.34371733	3.871153997	0	13.34371733	10.29103333	4.26E-10	ECM_AFFILIATED	3.446961125	1.296635323
<b>MUC17</b>	11.16074044	0.657567474	0	11.16074044	9.240544444	0.007719749	ECM_AFFILIATED	16.97276839	1.207801176
<b>MUC3A</b>	12.06082533	5.869215593	0	12.06082533	9.356169444	1.73E-07	ECM_AFFILIATED	2.054929682	1.289077267
<b>MUC5B</b>	10.54449444	5.562827041	4.52E-123	10.54449444	8.696797222	0.006640958	ECM_AFFILIATED	1.895528005	1.212457204



<b>MXRA5</b>	13.03528978	10.90338756	1.34E-66	13.03528978	11.52289722	1.84E-10	ECM_GLYCOPROTEINS	1.195526592	1.131251067
<b>NGLY1</b>	10.07889067	9.959465731	2.38E-05	10.07889067	9.881375	0.025173668	ECM_REGULATORS	1.011991099	1.019988682
<b>NID2</b>	10.52273889	9.115427105	3.38E-50	10.52273889	9.176313889	3.99E-09	ECM_GLYCOPROTEINS	1.154387915	1.146728307
<b>NID2</b>	10.52273889	9.115427105	3.38E-50	10.52273889	9.176313889	3.99E-09	BASEMENT_MEMBRANES	1.154387915	1.146728307
<b>NTNG2</b>	6.394661778	5.95492044	1.25E-05	6.394661778	5.967911111	0.0361571	BASEMENT_MEMBRANES	1.07384504	1.071507544
<b>NTNG2</b>	6.394661778	5.95492044	1.25E-05	6.394661778	5.967911111	0.0361571	ECM_GLYCOPROTEINS	1.07384504	1.071507544
<b>OGFOD1</b>	10.62352556	10.45417434	1.94E-12	10.62352556	10.36175278	0.001127894	ECM_REGULATORS	1.016199387	1.025263368
<b>OIT3</b>	4.744170222	3.162342453	3.20E-44	4.744170222	3.593138889	0.000161971	ECM_GLYCOPROTEINS	1.500207613	1.320341453
<b>OTOG</b>	1.654464667	1.291497704	8.42E-05	1.654464667	0.418186111	4.02E-05	ECM_GLYCOPROTEINS	1.281043444	3.956287937
<b>PCOLCE</b>	11.01975444	10.58468347	6.65E-07	11.01975444	10.57139167	0.032211444	ECM_GLYCOPROTEINS	1.041103825	1.042412843
<b>PLAU</b>	11.13289267	10.53550347	7.81E-09	11.13289267	9.424855556	1.45E-14	ECM_REGULATORS	1.056702483	1.181226874
<b>PLOD3</b>	12.31784178	11.61495715	4.79E-44	12.31784178	10.86550556	1.97E-17	ECM_REGULATORS	1.060515473	1.133664855
<b>PLXDC1</b>	9.546927333	8.810221397	1.42E-26	9.546927333	8.699297222	8.15E-07	ECM_AFFILIATED	1.083619458	1.097436619
<b>PLXNA1</b>	12.011132	11.47403255	2.64E-18	12.011132	10.83508056	1.93E-14	ECM_AFFILIATED	1.046809999	1.108541089
<b>PLXNA3</b>	11.22321533	10.69586156	2.48E-23	11.22321533	10.233925	1.22E-09	ECM_AFFILIATED	1.049304468	1.096667733
<b>PLXNB1</b>	11.99301667	11.84458584	0.013241308	11.99301667	11.44999722	0.000518602	ECM_AFFILIATED	1.012531534	1.04742529
<b>PLXNB2</b>	14.38407889	13.6445309	5.78E-70	14.38407889	14.07644167	0.015299843	ECM_AFFILIATED	1.054201056	1.021854758
<b>PLXND1</b>	12.19908733	11.89022243	1.91E-08	12.19908733	11.29818333	1.12E-07	ECM_AFFILIATED	1.025976377	1.079738837
<b>PODNL1</b>	7.686152222	6.538444441	9.91E-27	7.686152222	6.407372222	8.55E-08	PROTEOGLYCANS	1.175532237	1.199579477
<b>POSTN</b>	12.85119822	10.68835551	1.23E-36	12.85119822	12.23900278	0.017231599	ECM_GLYCOPROTEINS	1.20235505	1.050020043
<b>PRSS3</b>	10.78949444	3.83222702	0	10.78949444	10.00613611	0.018032004	ECM_REGULATORS	2.815463277	1.078287795
<b>PXDN</b>	11.63657644	11.25497626	1.74E-05	11.63657644	10.57374722	1.58E-07	ECM_GLYCOPROTEINS	1.033905019	1.100515853
<b>REG4</b>	11.38451	1.936207302	0	11.38451	9.385597222	0.006036422	ECM_AFFILIATED	5.879799124	1.212976621
<b>SDC1</b>	13.06162622	12.36422045	4.77E-08	13.06162622	12.29052222	0.006301894	ECM_AFFILIATED	1.056405155	1.062739726
<b>SDC4</b>	13.43246667	12.80251828	1.11E-13	13.43246667	12.87870833	0.001041967	ECM_AFFILIATED	1.049205037	1.042997971
<b>SEMA4D</b>	10.76442178	10.40990058	1.56E-10	10.76442178	10.40602778	0.010007144	ECM_AFFILIATED	1.034056156	1.034441
<b>SEMA4G</b>	11.26400133	8.233080251	7.46E-261	11.26400133	9.982061111	4.39E-07	ECM_AFFILIATED	1.368139383	1.128424401
<b>SEMA5A</b>	9.894536667	9.681341964	0.031243534	9.894536667	9.446891667	0.037005266	ECM_AFFILIATED	1.022021193	1.047385427
<b>SEMA6B</b>	9.286624889	8.793950223	7.45E-12	9.286624889	8.677583333	0.000576141	ECM_AFFILIATED	1.056024273	1.070185619
<b>SEMA7A</b>	8.918727556	8.475128954	5.19E-08	8.918727556	8.173902778	0.00071903	ECM_AFFILIATED	1.052341221	1.091122295
<b>SERPINA1</b>	13.24141467	11.79513816	1.08E-19	13.24141467	11.41300833	1.60E-05	ECM_REGULATORS	1.122616326	1.160203715
<b>SERPINA4</b>	7.145585778	2.266563977	5.91E-176	7.145585778	5.688380556	0.010469421	ECM_REGULATORS	3.15260714	1.256172246
<b>SERPINB5</b>	10.87661533	5.535738191	6.80E-114	10.87661533	8.913827778	3.41E-05	ECM_REGULATORS	1.964799446	1.220195813
<b>SERPINB9</b>	10.28189844	9.199020844	7.86E-64	10.28189844	9.604122222	0.000315752	ECM_REGULATORS	1.117716616	1.070571387
<b>SERPINE1</b>	11.28036733	10.74768977	8.95E-07	11.28036733	9.449688889	1.17E-10	ECM_REGULATORS	1.049562052	1.193728965
<b>SERPINH1</b>	12.93389489	12.68452609	0.000241792	12.93389489	11.48178333	2.92E-19	ECM_REGULATORS	1.019659291	1.126470907
<b>SPON2</b>	11.24789489	10.24663644	4.49E-19	11.24789489	10.39352778	3.58E-06	ECM_GLYCOPROTEINS	1.097715817	1.08220184
<b>SRPX2</b>	8.381263333	7.587607153	7.22E-13	8.381263333	7.791197222	0.007089993	ECM_GLYCOPROTEINS	1.104599008	1.075734973
<b>ST14</b>	13.45612822	11.48217639	1.93E-57	13.45612822	11.97865556	2.56E-09	ECM_REGULATORS	1.171914432	1.123342111
<b>SULF1</b>	12.53068556	10.89942983	7.41E-43	12.53068556	10.20347778	5.49E-14	ECM_REGULATORS	1.149664318	1.228079859
<b>SULF2</b>	12.58987444	11.71216418	1.57E-27	12.58987444	11.63905556	2.74E-06	ECM_REGULATORS	1.074940058	1.0816921
<b>TGFBI</b>	12.73359622	12.17238885	4.56E-09	12.73359622	12.04849722	0.001356618	ECM_GLYCOPROTEINS	1.046104949	1.05686178
<b>TGM2</b>	13.53918311	12.01897952	3.01E-62	13.53918311	12.86103889	0.002707094	ECM_REGULATORS	1.126483583	1.052728573
<b>THBS1</b>	13.651726	12.14261519	1.69E-44	13.651726	13.06033889	0.019802709	ECM_GLYCOPROTEINS	1.12428219	1.045281146
<b>THBS2</b>	11.84119689	11.11429101	6.90E-11	11.84119689	9.501916667	4.49E-12	ECM_GLYCOPROTEINS	1.065402812	1.246190353
<b>TIMP1</b>	14.20954578	13.01940428	3.94E-44	14.20954578	12.64195	5.20E-14	ECM_REGULATORS	1.091412899	1.123999524

<b>TINAG</b>	4.209975333	1.575004602	1.56E-66	4.209975333	2.8214	0.008594082	ECM_GLYCOPROTEINS	2.672992401	1.492158267
<b>TINAGL1</b>	12.17423156	10.44053464	1.33E-69	12.17423156	11.448325	3.95E-06	ECM_GLYCOPROTEINS	1.166054419	1.063407228
<b>TNFAIP6</b>	7.438055333	6.456752307	1.44E-15	7.438055333	6.621619444	0.002266519	ECM_GLYCOPROTEINS	1.1519809	1.123298522
<b>TSPEAR</b>	4.212367556	2.483923895	6.05E-66	4.212367556	3.134252778	0.001647062	ECM_GLYCOPROTEINS	1.695852101	1.343978248
<b>VCAN</b>	12.61271044	11.6322721	1.53E-17	12.61271044	10.87264167	1.47E-11	PROTEOGLYCANS	1.084286057	1.160041031
<b>WISP1</b>	8.431896222	7.255730357	7.08E-26	8.431896222	6.486747222	4.82E-11	ECM_GLYCOPROTEINS	1.16210165	1.299865084
<b>WISP3</b>	5.613243333	4.021015402	6.87E-56	5.613243333	4.527647222	0.00216102	ECM_GLYCOPROTEINS	1.395976581	1.239770472
<b>WNT2</b>	7.018146667	5.44718666	2.64E-27	7.018146667	2.896480556	1.10E-23	SECRETED_FACTORS	1.288398416	2.42299112
<b>WNT5A</b>	10.14453956	8.979624458	9.63E-26	10.14453956	9.235061111	5.89E-05	SECRETED_FACTORS	1.12972871	1.098481042
<b>WNT8B</b>	2.700165111	1.719004804	5.38E-39	2.700165111	1.233094444	8.72E-08	SECRETED_FACTORS	1.570772289	2.189747203
<b>VWA1</b>	12.42854844	11.49001339	1.06E-41	12.42854844	12.0278	0.020532188	ECM_GLYCOPROTEINS	1.081682677	1.033318516
<b>VWA3B</b>	4.741314444	3.140936735	1.10E-46	4.741314444	4.147102778	0.03969392	ECM_GLYCOPROTEINS	1.509522428	1.143283564
<b>VWA9</b>	10.68596133	10.61265181	0.000920595	10.68596133	10.06440278	5.35E-12	ECM_GLYCOPROTEINS	1.006907748	1.061758116
<b>ZFP91</b>	12.10707911	11.61588412	7.68E-59	12.10707911	11.845475	0.001936904	SECRETED_FACTORS	1.042286492	1.022084729

Testicular germ cell tumor (TGCT)

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
A2M	14.48974416	14.10091615	0.00758076	14.48974416	13.23631932	4.83E-45	ECM_REGULATORS	1.027574662	1.094695875
ADAM18	3.024779221	0.43062132	4.62E-148	3.024779221	2.958575	1.83E-05	ECM_REGULATORS	7.024220771	1.022377064
ADAM19	10.25900455	9.039341063	2.94E-20	10.25900455	4.969286364	2.22E-156	ECM_REGULATORS	1.134928362	2.064482462
ADAM20	1.945568831	1.723510404	0.014221359	1.945568831	1.8749125	2.85E-108	ECM_REGULATORS	1.128840782	1.037685135
ADAM32	5.908311688	4.611716375	4.31E-20	5.908311688	3.996519318	4.18E-48	ECM_REGULATORS	1.28115244	1.478364351
ADAM33	8.422316234	6.14895825	4.30E-32	8.422316234	2.576570455	5.79E-22	ECM_REGULATORS	1.369714331	3.268808823
ADAM8	9.723261039	8.866244305	2.52E-09	9.723261039	1.253972727	1.89E-19	ECM_REGULATORS	1.096660627	7.75396532
ADAMDEC1	9.192250649	6.074119259	2.64E-44	9.192250649	8.603455682	8.74E-125	ECM_REGULATORS	1.513347081	1.068437032
ADAMTS3	7.165530519	5.8464072	6.38E-18	7.165530519	2.823254545	0.000575951	ECM_REGULATORS	1.225629737	2.538039133
ADAMTS6	6.497740909	5.759757718	3.19E-07	6.497740909	0	1.36E-13	ECM_REGULATORS	1.128127471	Inf
ADAMTS7	9.56698961	8.043525123	1.62E-34	9.56698961	1.104234091	8.94E-99	ECM_REGULATORS	1.189402589	8.663914372
ADAMTSL4	10.14736299	8.819841914	6.84E-20	10.14736299	0.429810227	1.21E-14	ECM_REGULATORS	1.150515291	23.60893795
ADAMTSL5	6.944474026	6.219341179	9.28E-06	6.944474026	0.935293182	1.14E-81	ECM_REGULATORS	1.116593193	7.424916765
AMH	7.377821429	4.812156818	3.25E-39	7.377821429	0.357515909	2.03E-50	SECRETED_FACTORS	1.533163134	20.6363444
ANGPT1	8.72602987	7.111320236	2.66E-22	8.72602987	2.541519318	4.23E-12	SECRETED_FACTORS	1.227061865	3.433391125
ANGPTL5	1.757477922	1.363457321	0.001276508	1.757477922	0.079918182	3.05E-93	SECRETED_FACTORS	1.288986384	21.99096479
ANXA3	9.805933766	9.154774867	0.002751325	9.805933766	3.499820455	0.015956503	ECM_AFFILIATED	1.071127789	2.801839092
ANXA6	13.35774416	12.23810033	4.16E-29	13.35774416	0.067611364	2.12E-73	ECM_AFFILIATED	1.091488368	197.5665545
BCAN	7.665983117	4.52263364	2.84E-20	7.665983117	1.5822	6.80E-97	PROTEOGLYCANS	1.695026334	4.845141649
BMP7	9.124014286	8.012745776	0.00025648	9.124014286	8.190473864	8.68E-83	SECRETED_FACTORS	1.138687604	1.113978805
BMP8A	4.776299351	4.243046569	0.00052084	4.776299351	1.973632955	3.18E-05	SECRETED_FACTORS	1.125676863	2.420054519
C1QA	12.68443312	11.45343086	4.46E-18	12.68443312	9.521038636	2.60E-36	ECM_AFFILIATED	1.107478909	1.332253087
C1QB	12.62134675	11.61465161	1.88E-11	12.62134675	11.57160795	3.03E-13	ECM_AFFILIATED	1.086674588	1.090716761
C1QC	12.45674091	11.45251726	3.57E-12	12.45674091	6.343613636	3.19E-30	ECM_AFFILIATED	1.087685845	1.963666393
C1QTNF9	2.757572727	2.268579096	0.000224449	2.757572727	2.696727273	1.50E-06	ECM_AFFILIATED	1.21555062	1.022562702
CCL1	1.805602597	0.617419046	3.26E-46	1.805602597	0.614193182	1.14E-147	SECRETED_FACTORS	2.924436183	2.939795899
CCL11	4.696264935	4.024827146	0.00380168	4.696264935	0.786252273	2.22E-98	SECRETED_FACTORS	1.166824006	5.972974703
CCL13	5.433473377	4.47403663	8.39E-06	5.433473377	2.6249875	1.38E-122	SECRETED_FACTORS	1.214445438	2.069904476
CCL14	7.354714286	6.785299197	0.00858529	7.354714286	3.622790909	1.40E-08	SECRETED_FACTORS	1.083918936	2.030123866
CCL17	4.19380974	3.627146966	0.000855451	4.19380974	3.565842045	6.18E-70	SECRETED_FACTORS	1.156228237	1.176106425
CCL18	8.031631169	7.071676086	0.000405161	8.031631169	5.106510227	2.71E-16	SECRETED_FACTORS	1.135746472	1.57282191
CCL19	9.996823377	6.208006281	9.31E-49	9.996823377	9.1442125	0.011567302	SECRETED_FACTORS	1.610311415	1.093240492
CCL21	8.31929026	6.894106697	1.30E-06	8.31929026	5.462685227	0.000736408	SECRETED_FACTORS	1.206724907	1.522930558
CCL24	4.441853247	2.725102874	3.11E-17	4.441853247	0.097161364	1.98E-106	SECRETED_FACTORS	1.629976354	45.71625058
CCL3	8.740666883	7.417444943	2.71E-21	8.740666883	6.340792045	4.14E-108	SECRETED_FACTORS	1.178393227	1.378481871
CCL5	10.88066818	9.357343501	2.56E-20	10.88066818	9.316761364	4.49E-25	SECRETED_FACTORS	1.162794567	1.167859491
CILP2	8.859505844	6.300295248	1.49E-35	8.859505844	3.601670455	4.78E-72	ECM_GLYCOPROTEINS	1.406204867	2.459832446
CLEC11A	9.082371429	8.517372438	2.05E-06	9.082371429	4.235623864	1.35E-37	ECM_AFFILIATED	1.066334893	2.144281863
CLEC12A	6.706621429	5.078986045	6.95E-21	6.706621429	3.044089773	1.97E-05	ECM_AFFILIATED	1.32046463	2.203161513
CLEC12B	3.705198052	1.676101665	4.61E-52	3.705198052	1.214805682	2.53E-13	ECM_AFFILIATED	2.210604601	3.050033522
CLEC17A	3.622554545	2.780440172	2.03E-07	3.622554545	2.599748864	1.27E-158	ECM_AFFILIATED	1.302870884	1.393424802

CLEC18C	4.618565584	3.427894406	3.83E-08	4.618565584	4.195159091	1.32E-37	ECM_AFFILIATED	1.347347683	1.100927399
CLEC1A	7.807029221	6.223547285	6.73E-41	7.807029221	1.579334091	0.035132149	ECM_AFFILIATED	1.254433985	4.94324112
CLEC4A	6.925666883	6.136338653	1.35E-14	6.925666883	0.693794318	3.01E-14	ECM_AFFILIATED	1.128631791	9.982305565
CLEC4E	7.142075974	5.377278622	1.99E-29	7.142075974	4.371936364	2.42E-06	ECM_AFFILIATED	1.328195259	1.633618466
CLEC9A	6.874375325	3.469250285	2.65E-100	6.874375325	1.9509875	1.74E-84	ECM_AFFILIATED	1.981516108	3.523536324
COCH	8.265304545	6.447597242	4.29E-19	8.265304545	4.182827273	1.92E-114	ECM_GLYCOPROTEINS	1.281920107	1.97600905
COL11A2	6.844648701	5.976564638	7.76E-07	6.844648701	3.157593182	2.99E-106	COLLAGENS	1.145248001	2.167679086
COL13A1	7.537797403	6.362314633	1.08E-14	7.537797403	4.500606818	2.26E-05	COLLAGENS	1.184757095	1.67484024
COL14A1	10.38097013	9.990020255	0.030178546	10.38097013	0.121203409	2.58E-27	COLLAGENS	1.039134042	85.6491596
COL15A1	10.85463117	10.47485168	0.033959411	10.85463117	7.035285227	1.66E-13	COLLAGENS	1.036256312	1.542884306
COL15A1	10.85463117	10.47485168	0.033959411	10.85463117	7.035285227	1.66E-13	BASEMENT_MEMBRANES	1.036256312	1.542884306
COL17A1	10.92392403	7.826266738	6.43E-20	10.92392403	3.388855682	0.012760561	COLLAGENS	1.395802672	3.223484578
COL1A1	15.55602792	14.72309046	0.00078358	15.55602792	5.928756818	1.29E-135	COLLAGENS	1.056573548	2.623826276
COL1A2	15.54163117	14.47520346	6.84E-07	15.54163117	7.728581818	1.89E-42	COLLAGENS	1.073672726	2.010929241
COL21A1	7.019368831	6.14213844	1.15E-06	7.019368831	5.823370455	5.76E-111	COLLAGENS	1.142821657	1.205379065
COL25A1	4.638569481	3.886852269	9.66E-05	4.638569481	3.960978409	2.96E-42	COLLAGENS	1.193399995	1.17106659
COL3A1	14.95189286	14.25650017	0.00347231	14.95189286	4.069794318	1.91E-05	COLLAGENS	1.048777237	3.673869412
COL4A1	13.79657662	13.18191152	6.57E-05	13.79657662	8.029746591	2.51E-34	COLLAGENS	1.046629437	1.718183316
COL4A1	13.79657662	13.18191152	6.57E-05	13.79657662	8.029746591	2.51E-34	BASEMENT_MEMBRANES	1.046629437	1.718183316
COL4A2	14.20705195	13.44157649	2.50E-07	14.20705195	5.313918182	0.038483001	BASEMENT_MEMBRANES	1.056948339	2.673554892
COL4A2	14.20705195	13.44157649	2.50E-07	14.20705195	5.313918182	0.038483001	COLLAGENS	1.056948339	2.673554892
COL4A5	9.769585065	9.278673773	0.010480589	9.769585065	6.1588875	6.11E-11	COLLAGENS	1.052907485	1.586258081
COL4A5	9.769585065	9.278673773	0.010480589	9.769585065	6.1588875	6.11E-11	BASEMENT_MEMBRANES	1.052907485	1.586258081
COL4A6	8.706823377	6.14074324	1.57E-25	8.706823377	4.933819318	2.50E-27	BASEMENT_MEMBRANES	1.417877777	1.764722787
COL4A6	8.706823377	6.14074324	1.57E-25	8.706823377	4.933819318	2.50E-27	COLLAGENS	1.417877777	1.764722787
COL5A3	9.952461039	9.44224444	0.000677925	9.952461039	5.696418182	1.12E-07	COLLAGENS	1.054035521	1.747143682
COL6A2	14.32705909	13.26632556	1.55E-10	14.32705909	11.82396818	2.30E-125	COLLAGENS	1.079956845	1.21169635
COL6A2	14.32705909	13.26632556	1.55E-10	14.32705909	11.82396818	2.30E-125	BASEMENT_MEMBRANES	1.079956845	1.21169635
COL6A3	13.28428247	12.61874339	0.002642124	13.28428247	12.88514318	4.74E-74	BASEMENT_MEMBRANES	1.052742104	1.030976706
COL6A3	13.28428247	12.61874339	0.002642124	13.28428247	12.88514318	4.74E-74	COLLAGENS	1.052742104	1.030976706
COMP	8.168780519	7.219158037	0.002025102	8.168780519	8.0084125	1.24E-113	ECM_GLYCOPROTEINS	1.131541999	1.020024945
CPAMD8	8.765424675	7.626237433	1.81E-09	8.765424675	3.203618182	9.88E-116	ECM_REGULATORS	1.149377364	2.736101551
CRELD2	10.55531429	10.39180375	0.015376245	10.55531429	0.708672727	8.59E-09	ECM_GLYCOPROTEINS	1.015734567	14.89448356
CRISPLD1	9.315064935	8.097706832	7.13E-11	9.315064935	6.08975	0.020098427	ECM_GLYCOPROTEINS	1.150333684	1.529630106
CRLF1	9.099877922	7.059624756	9.68E-32	9.099877922	6.768884091	2.74E-69	SECRETED_FACTORS	1.289003061	1.344368998
CSF2	2.905978571	2.068880074	3.33E-06	2.905978571	0.905110227	1.73E-19	SECRETED_FACTORS	1.404614317	3.210634997
CSH1	3.801808442	0.184485919	0	3.801808442	0.2683125	4.55E-65	SECRETED_FACTORS	20.60758059	14.16933032
CST7	8.23276039	7.014861792	2.81E-14	8.23276039	5.448784091	7.55E-89	ECM_REGULATORS	1.173616906	1.51093533
CST9L	1.132381818	0.272094774	2.55E-29	1.132381818	0.871779545	3.02E-275	ECM_REGULATORS	4.161718365	1.298931392
CTHRC1	9.485818182	9.070787506	0.044383233	9.485818182	7.952111364	2.02E-98	ECM_GLYCOPROTEINS	1.045754646	1.192867875
CTSC	12.69650065	12.15492012	1.23E-05	12.69650065	9.98955	5.08E-117	ECM_REGULATORS	1.044556486	1.270978237
CTSL	12.64565844	11.86333242	9.53E-15	12.64565844	0.687885227	8.83E-34	ECM_REGULATORS	1.065944879	18.38338423
CTSS	11.73688571	11.41590601	0.010865798	11.73688571	0.254202273	5.16E-157	ECM_REGULATORS	1.028116884	46.17144288
CXCL13	8.162095455	6.319954466	1.81E-11	8.162095455	6.927760227	5.75E-05	SECRETED_FACTORS	1.291480105	1.178172337
CXCL9	11.64381364	8.922699903	7.07E-30	11.64381364	3.184668182	5.85E-10	SECRETED_FACTORS	1.304965287	3.656209367
DDX26B	8.856307143	8.163141895	3.36E-11	8.856307143	1.648797727	9.32E-53	ECM_GLYCOPROTEINS	1.084914027	5.371372726

<b>EBI3</b>	7.230278571	6.050194039	4.08E-20	7.230278571	1.269811364	5.67E-19	SECRETED_FACTORS	1.195049039	5.693978475
<b>EFEMP1</b>	11.6112474	10.44925799	1.77E-09	11.6112474	7.888103409	1.57E-101	ECM_GLYCOPROTEINS	1.111203055	1.471994826
<b>EGFL7</b>	11.32200909	9.73113783	1.59E-47	11.32200909	8.208879545	1.48E-42	SECRETED_FACTORS	1.163482553	1.379239277
<b>EGFL8</b>	8.803781818	7.641828307	2.72E-26	8.803781818	7.413967045	3.46E-22	SECRETED_FACTORS	1.152051769	1.18745899
<b>EGFLAM</b>	10.06765455	7.591718339	7.24E-68	10.06765455	6.383727273	9.38E-08	ECM_GLYCOPROTEINS	1.326136468	1.57708093
<b>EGLN2</b>	11.93895325	11.42198875	8.45E-22	11.93895325	9.702230682	1.04E-68	ECM_REGULATORS	1.045260462	1.230536939
<b>ELSPBP1</b>	0.941251299	0.46003153	1.56E-06	0.941251299	0.149809091	4.71E-69	ECM_GLYCOPROTEINS	2.046058231	6.28300521
<b>EMID1</b>	8.763759091	8.14496787	4.54E-05	8.763759091	8.202040909	1.22E-104	ECM_GLYCOPROTEINS	1.075972211	1.068485172
<b>F10</b>	7.130981169	6.183197174	5.67E-06	7.130981169	0.041297727	1.06E-56	ECM_REGULATORS	1.153283806	172.6724844
<b>F2</b>	5.467025974	2.072911129	5.60E-34	5.467025974	5.179459091	1.32E-08	ECM_REGULATORS	2.637366309	1.05552064
<b>FAM20A</b>	9.6255	8.560326662	1.24E-09	9.6255	5.639498864	2.88E-18	ECM_REGULATORS	1.124431389	1.706800592
<b>FBLN1</b>	13.75817857	11.59315023	2.79E-29	13.75817857	5.178522727	1.34E-88	ECM_GLYCOPROTEINS	1.18675065	2.656776709
<b>FBLN2</b>	11.31948182	10.23178675	1.18E-10	11.31948182	10.38573636	2.27E-42	ECM_GLYCOPROTEINS	1.106305486	1.089906524
<b>FBLN5</b>	12.06672922	9.873761879	2.16E-55	12.06672922	8.263398864	3.59E-147	ECM_GLYCOPROTEINS	1.222100489	1.460262226
<b>FBN3</b>	11.11442727	4.14700932	1.49E-140	11.11442727	5.654632955	7.67E-48	ECM_GLYCOPROTEINS	2.680106654	1.96554354
<b>FCN1</b>	8.661434416	6.368586596	7.00E-38	8.661434416	4.508817045	3.15E-27	ECM_AFFILIATED	1.360024596	1.920999306
<b>FGF11</b>	8.47735974	7.665485048	5.41E-06	8.47735974	0.404869318	2.66E-22	SECRETED_FACTORS	1.105913023	20.9385087
<b>FGF13</b>	10.00445195	7.236045505	4.79E-54	10.00445195	2.916180682	1.27E-17	SECRETED_FACTORS	1.382585549	3.43066944
<b>FGF16</b>	3.343573377	1.048529498	1.43E-74	3.343573377	2.116503409	1.39E-133	SECRETED_FACTORS	3.188821472	1.579762812
<b>FGF17</b>	6.759304545	3.066458337	4.00E-97	6.759304545	3.023728409	1.48E-12	SECRETED_FACTORS	2.204270791	2.235420524
<b>FGF19</b>	6.859064935	1.779349231	1.34E-122	6.859064935	5.228060227	8.57E-44	SECRETED_FACTORS	3.854816591	1.311971293
<b>FGF2</b>	8.417274675	7.807297242	0.000282275	8.417274675	0.318039773	8.55E-71	SECRETED_FACTORS	1.078129142	26.46610706
<b>FGF3</b>	0.865861688	0.433148021	0.000102411	0.865861688	0.704777273	1.89E-166	SECRETED_FACTORS	1.998997217	1.228560741
<b>FGF4</b>	5.919713636	0.414717188	0	5.919713636	1.228957955	6.81E-158	SECRETED_FACTORS	14.27409766	4.816856113
<b>FGL2</b>	10.14908701	9.58491772	5.58E-05	10.14908701	0.014686364	1.15E-24	ECM_GLYCOPROTEINS	1.058860108	691.0551355
<b>FNDC7</b>	2.672161039	0.754637675	3.07E-91	2.672161039	0	1.58E-39	ECM_GLYCOPROTEINS	3.540985464	Inf
<b>FRAS1</b>	9.750134416	8.380423023	1.19E-11	9.750134416	8.400604545	4.99E-144	ECM_GLYCOPROTEINS	1.163441796	1.160646756
<b>FREM1</b>	7.053040909	5.985597532	1.92E-07	7.053040909	0.013803409	8.08E-162	ECM_AFFILIATED	1.178335308	510.9636947
<b>HAPLN1</b>	6.638294805	5.239506823	1.06E-08	6.638294805	0.216446591	1.02E-24	PROTEOGLYCANS	1.266969398	30.66943571
<b>HPX</b>	6.620682468	4.962082464	6.50E-11	6.620682468	4.147871591	5.26E-25	ECM_AFFILIATED	1.334254825	1.596163797
<b>HTRA4</b>	5.40094026	3.348438982	1.25E-39	5.40094026	1.250257955	3.08E-82	ECM_REGULATORS	1.612972579	4.319860746
<b>HYAL2</b>	11.65225065	11.15445061	1.01E-14	11.65225065	1.068781818	3.21E-92	ECM_REGULATORS	1.044627929	10.90236609
<b>HYAL4</b>	8.815507792	1.19545825	0	8.815507792	3.035072727	1.91E-05	ECM_REGULATORS	7.374166175	2.904545816
<b>IGFBP2</b>	12.5405	11.54679975	1.87E-07	12.5405	3.308595455	6.41E-95	ECM_GLYCOPROTEINS	1.086058499	3.790279039
<b>IGSF10</b>	6.967480519	5.994378825	3.00E-06	6.967480519	6.493828409	3.88E-47	ECM_GLYCOPROTEINS	1.162335702	1.072938809
<b>ITLN2</b>	6.132425325	1.964228414	7.34E-103	6.132425325	2.077495455	3.82E-86	ECM_AFFILIATED	3.122053057	2.951835736
<b>KNG1</b>	5.000430519	2.176259595	2.04E-19	5.000430519	3.533275	8.59E-151	ECM_REGULATORS	2.29771785	1.41523955
<b>LAMA4</b>	11.47398247	10.91165478	5.88E-05	11.47398247	4.796089773	4.31E-32	ECM_GLYCOPROTEINS	1.051534593	2.392361905
<b>LAMA4</b>	11.47398247	10.91165478	5.88E-05	11.47398247	4.796089773	4.31E-32	BASEMENT_MEMBRANES	1.051534593	2.392361905
<b>LAMA5</b>	12.66366429	12.32682005	0.003552334	12.66366429	5.271243182	4.66E-86	ECM_GLYCOPROTEINS	1.027326126	2.402405628
<b>LAMA5</b>	12.66366429	12.32682005	0.003552334	12.66366429	5.271243182	4.66E-86	BASEMENT_MEMBRANES	1.027326126	2.402405628
<b>LAMB1</b>	12.60562078	12.22750926	0.004833951	12.60562078	6.506263636	3.64E-82	BASEMENT_MEMBRANES	1.03092302	1.937459268
<b>LAMB1</b>	12.60562078	12.22750926	0.004833951	12.60562078	6.506263636	3.64E-82	ECM_GLYCOPROTEINS	1.03092302	1.937459268
<b>LAMC1</b>	13.81678506	12.78352298	6.02E-22	13.81678506	1.8319125	1.12E-102	ECM_GLYCOPROTEINS	1.080827647	7.542273479
<b>LAMC1</b>	13.81678506	12.78352298	6.02E-22	13.81678506	1.8319125	1.12E-102	BASEMENT_MEMBRANES	1.080827647	7.542273479
<b>LAMC3</b>	10.27522338	7.751949405	1.30E-51	10.27522338	5.444	1.33E-26	BASEMENT_MEMBRANES	1.325501863	1.887444003

LAMC3	10.27522338	7.751949405	1.30E-51	10.27522338	5.444	1.33E-26	ECM_GLYCOPROTEINS	1.325501863	1.887440003
LGALS12	4.050072078	3.118714613	9.41E-07	4.050072078	0.125365909	1.86E-66	ECM_AFFILIATED	1.29863504	32.30600813
LGALS16	1.215059091	0.026903571	0	1.215059091	0.795284091	1.94E-118	ECM_AFFILIATED	45.1634873	1.527830249
LGALS7	3.47269026	2.673128898	0.002431626	3.47269026	1.140015909	2.69E-64	ECM_AFFILIATED	1.299110665	3.046177016
LOXL1	9.994736364	9.223631424	1.37E-06	9.994736364	9.193948864	2.71E-171	ECM_REGULATORS	1.083601014	1.087099408
LOXL2	12.41042857	10.13705281	2.10E-58	12.41042857	1.558902273	8.71E-180	ECM_REGULATORS	1.224263975	7.961004861
LTBP4	12.09105779	11.5508213	1.07E-05	12.09105779	1.134201136	1.22E-55	ECM_GLYCOPROTEINS	1.046770396	10.66041763
MATN3	7.07896039	6.479670986	0.000897942	7.07896039	6.243238636	1.37E-126	ECM_GLYCOPROTEINS	1.092487629	1.133860293
MFAP1	10.82840519	10.3685813	2.44E-29	10.82840519	2.215597727	5.97E-122	ECM_GLYCOPROTEINS	1.044347812	4.887351644
MFAP2	11.00239416	9.09298169	3.80E-18	11.00239416	1.199613636	1.33E-68	ECM_GLYCOPROTEINS	1.209987497	9.171614779
MFAP5	7.930794805	6.773161405	1.93E-05	7.930794805	7.282652273	4.38E-67	ECM_GLYCOPROTEINS	1.170914781	1.088998144
MMP15	13.1271013	10.75676714	1.66E-83	13.1271013	4.612923864	1.26E-113	ECM_REGULATORS	1.220357485	2.845722515
MMP16	7.66576039	6.831207403	7.81E-05	7.66576039	0.242132955	5.48E-79	ECM_REGULATORS	1.122167713	31.65930224
MMP2	13.48239091	12.25474887	5.92E-14	13.48239091	11.88949318	6.34E-175	ECM_REGULATORS	1.100176842	1.133975242
MMP23B	6.814503247	5.812182203	4.65E-12	6.814503247	2.105089773	1.22E-22	ECM_REGULATORS	1.172451759	3.237155648
MMP24	10.41815325	6.904890448	3.41E-72	10.41815325	0.241529545	7.32E-128	ECM_REGULATORS	1.508807899	43.13407383
MMP9	12.71395909	9.321476019	8.67E-50	12.71395909	10.95604773	5.54E-11	ECM_REGULATORS	1.363942692	1.160451233
MUC12	5.687809091	4.995281138	0.005228636	5.687809091	3.365229545	2.32E-94	ECM_AFFILIATED	1.138636432	1.690169724
MUC16	6.727663636	5.291437598	3.29E-05	6.727663636	3.793965909	4.68E-37	ECM_AFFILIATED	1.271424544	1.773253581
MUC3A	8.727307792	6.431331046	8.43E-16	8.727307792	0.487304545	1.73E-78	ECM_AFFILIATED	1.356998688	17.90935027
MUC4	8.680755195	6.699345553	2.24E-10	8.680755195	6.610771591	8.08E-25	ECM_AFFILIATED	1.295761672	1.313122844
NCAN	6.512582468	2.406321746	3.62E-47	6.512582468	5.494847727	1.96E-168	PROTEOGLYCANS	2.706447082	1.185216186
NELL1	5.282794805	3.299447847	5.43E-14	5.282794805	0.758869318	7.33E-38	ECM_GLYCOPROTEINS	1.601114808	6.961402548
NGLY1	10.1256513	9.970886625	0.001045832	10.1256513	7.918786364	2.20E-37	ECM_REGULATORS	1.015521656	1.278687268
NID2	9.877287013	9.197347518	1.53E-05	9.877287013	7.775701136	2.82E-51	BASEMENT_MEMBRANES	1.073927781	1.270276061
NID2	9.877287013	9.197347518	1.53E-05	9.877287013	7.775701136	2.82E-51	ECM_GLYCOPROTEINS	1.073927781	1.270276061
NTNG1	7.672241558	4.252056566	4.56E-45	7.672241558	2.505509091	1.09E-118	ECM_GLYCOPROTEINS	1.804360182	3.062148761
NTNG1	7.672241558	4.252056566	4.56E-45	7.672241558	2.505509091	1.09E-118	BASEMENT_MEMBRANES	1.804360182	3.062148761
OGFOD1	10.80253701	10.46312039	3.58E-17	10.80253701	2.750610227	6.56E-44	ECM_REGULATORS	1.032439331	3.927323801
OIT3	4.305724675	3.287965518	8.75E-08	4.305724675	0.97745	2.02E-27	ECM_GLYCOPROTEINS	1.309540703	4.40505875
PCOLCE	11.30457013	10.57789727	5.37E-07	11.30457013	0.029690909	7.99E-06	ECM_GLYCOPROTEINS	1.068697288	380.7417986
PCOLCE2	8.764474675	6.526141798	1.45E-25	8.764474675	2.041115909	9.88E-67	ECM_GLYCOPROTEINS	1.342979504	4.293962257
PCSK5	10.40851364	8.323331966	1.02E-50	10.40851364	4.949498864	4.07E-87	ECM_REGULATORS	1.250522469	2.102942929
PLOD1	13.32065325	12.5094691	6.61E-25	13.32065325	11.82298409	5.28E-83	ECM_REGULATORS	1.064845609	1.126674378
PLXNA1	11.9026974	11.51487167	0.000179702	11.9026974	5.021021591	7.01E-60	ECM_AFFILIATED	1.033680421	2.370572838
PLXNA2	10.8827974	10.52951998	0.000793112	10.8827974	3.247742045	6.37E-19	ECM_AFFILIATED	1.033551142	3.350881089
POMZP3	9.193207143	8.767994484	2.07E-08	9.193207143	1.451835227	1.46E-153	ECM_GLYCOPROTEINS	1.048496	6.332128447
PXDN	12.77679805	11.24386177	1.85E-25	12.77679805	0.502647727	4.36E-133	ECM_GLYCOPROTEINS	1.13633539	25.41899099
PXDNL	6.034985714	4.509557428	2.09E-20	6.034985714	2.552178409	3.09E-26	ECM_GLYCOPROTEINS	1.338265631	2.364641003
RELN	7.042130519	5.782373909	1.90E-07	7.042130519	0.370898864	1.57E-11	ECM_GLYCOPROTEINS	1.217861493	18.98665973
RSPO1	4.11025974	3.350703639	0.000678619	4.11025974	1.812540909	1.57E-56	ECM_GLYCOPROTEINS	1.226685551	2.267678329
RSPO2	3.894609091	2.661749598	2.49E-08	3.894609091	2.923955682	0.006760204	ECM_GLYCOPROTEINS	1.463176361	1.331965842
RSPO3	7.631338961	5.728923168	1.33E-20	7.631338961	7.129190909	0.032197485	ECM_GLYCOPROTEINS	1.332072143	1.07043549
RSPO4	6.305003247	4.166017265	6.69E-22	6.305003247	1.403763636	1.43E-68	ECM_GLYCOPROTEINS	1.513436658	4.491499198
SDC2	11.69209156	11.10406254	0.000314522	11.69209156	9.546525	5.15E-18	ECM_AFFILIATED	1.052956206	1.224748436
SEMA4A	10.55910909	9.711148921	1.39E-10	10.55910909	5.029613636	4.93E-48	ECM_AFFILIATED	1.087318213	2.099387717

SEMA4C	12.31272922	10.75931697	5.13E-97	12.31272922	7.172706818	0.014044704	ECM_AFFILIATED	1.144378333	1.716608462
SEMA4D	11.41986688	10.42381143	1.10E-27	11.41986688	1.698551136	4.82E-102	ECM_AFFILIATED	1.095555782	6.723298839
SEMA4F	8.99652987	8.665903223	6.87E-05	8.99652987	8.810028409	1.23E-161	ECM_AFFILIATED	1.038152589	1.021169224
SEMA4G	8.994888961	8.492883635	0.001383029	8.994888961	3.130627273	9.88E-135	ECM_AFFILIATED	1.059108937	2.873190635
SEMA5B	7.800862987	6.877054166	1.78E-06	7.800862987	1.245409091	1.38E-54	ECM_AFFILIATED	1.134332055	6.263695234
SEMA7A	10.02117143	8.460495403	5.07E-31	10.02117143	7.163461364	3.47E-58	ECM_AFFILIATED	1.18446627	1.398928663
SERPINA5	9.115425974	6.423066418	1.01E-17	9.115425974	0.026001136	3.74E-13	ECM_REGULATORS	1.419170437	350.5779842
SERPINB9	11.366	9.237187564	1.99E-88	11.366	6.230551136	3.88E-06	ECM_REGULATORS	1.230461103	1.824236693
SERPINE2	11.56234351	10.72869835	1.05E-05	11.56234351	8.017265909	6.50E-108	ECM_REGULATORS	1.077702358	1.442180369
SERPINH1	14.13176494	12.67646775	9.69E-39	14.13176494	5.440107955	1.07E-122	ECM_REGULATORS	1.114803052	2.597699357
SLIT1	7.076403896	5.41022524	4.80E-12	7.076403896	1.756978409	4.17E-31	ECM_GLYCOPROTEINS	1.307968445	4.027598666
SMOC1	8.250266234	6.990809262	4.70E-06	8.250266234	0.795704545	1.16E-14	ECM_GLYCOPROTEINS	1.180158967	10.36850459
SPAM1	2.753737662	0.152275283	0	2.753737662	2.439968182	9.54E-57	ECM_REGULATORS	18.08394381	1.128595726
SPOCK2	11.09782597	10.66480901	0.012711783	11.09782597	0.104305682	1.37E-45	PROTEOGLYCANS	1.040602412	106.3971375
SVEP1	9.567695455	8.193189306	1.06E-15	9.567695455	7.204344318	1.11E-37	ECM_GLYCOPROTEINS	1.16776204	1.328045278
TECTB	1.718621429	0.884186867	2.42E-12	1.718621429	1.395998864	2.53E-93	ECM_GLYCOPROTEINS	1.943731005	1.231105177
THBS4	9.164805844	7.914888977	3.80E-08	9.164805844	4.319764773	3.31E-09	ECM_GLYCOPROTEINS	1.157919697	2.121598357
TLL2	7.246832468	4.877072312	3.08E-59	7.246832468	7.080390909	1.82E-06	ECM_REGULATORS	1.485898097	1.023507397
TSPEAR	5.686031818	2.603217952	5.58E-72	5.686031818	0.246639773	2.77E-34	ECM_GLYCOPROTEINS	2.184231948	23.05399391
WFIKKN2	4.037857792	2.365066883	3.99E-24	4.037857792	1.607265909	1.18E-171	SECRETED_FACTORS	1.707291164	2.512252496
WNT1	1.516121429	0.68634775	4.57E-26	1.516121429	1.228228409	1.45E-170	SECRETED_FACTORS	2.208969766	1.234396972
WNT11	6.864704545	5.99647208	9.52E-06	6.864704545	2.8379625	1.45E-36	SECRETED_FACTORS	1.144790546	2.418884867
WNT2B	10.22443766	7.538313742	2.02E-87	10.22443766	9.662820455	8.13E-63	SECRETED_FACTORS	1.356329547	1.058121457
WNT3	10.65651558	6.938683499	7.24E-166	10.65651558	0.864421591	1.37E-07	SECRETED_FACTORS	1.535812317	12.32791464
WNT6	5.314022078	3.820398635	8.63E-18	5.314022078	3.036595455	6.91E-43	SECRETED_FACTORS	1.390960103	1.749993424
WNT8A	4.022231818	0.2552979	0	4.022231818	1.177968182	9.25E-64	SECRETED_FACTORS	15.75505251	3.414550478
WNT9A	8.621424675	6.912866351	1.86E-22	8.621424675	1.376176136	2.30E-51	SECRETED_FACTORS	1.247156279	6.26476833
VTN	7.441898052	5.264000174	4.70E-14	7.441898052	5.340589773	3.58E-06	ECM_GLYCOPROTEINS	1.413734386	1.393459968
VWA5B2	6.378844805	4.469438401	6.34E-21	6.378844805	3.707904545	1.86E-12	ECM_GLYCOPROTEINS	1.427213943	1.720336844
VWA9	10.71350325	10.62326302	0.015060945	10.71350325	0	4.24E-23	ECM_GLYCOPROTEINS	1.008494586	Inf
VWDE	5.568891558	4.248050131	9.51E-09	5.568891558	0.554190909	2.81E-22	ECM_GLYCOPROTEINS	1.31092887	10.04868804
VWF	12.77471104	12.19835603	3.98E-06	12.77471104	0.1099125	1.99E-107	ECM_GLYCOPROTEINS	1.04724858	116.2261894
XCL2	5.398020779	3.46297297	5.37E-38	5.398020779	0.949342045	5.81E-29	SECRETED_FACTORS	1.558782245	5.686065212
ZP4	0.952246104	0.354173628	1.24E-12	0.952246104	0.320561364	2.82E-50	ECM_GLYCOPROTEINS	2.688642034	2.97055794



**Thyroid Carcinoma (THCA)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
ADAMTS10	7.94207373	7.647687142	7.26E-06	7.94207373	7.292179661	2.03E-08	ECM_REGULATORS	1.038493545	1.089122059
ADAMTS18	4.627740806	3.805770956	1.58E-16	4.627740806	2.993918644	4.00E-12	ECM_REGULATORS	1.215979852	1.545713613
ADAMTS9	10.58527356	8.920219221	9.30E-104	10.58527356	8.627013559	1.50E-21	ECM_REGULATORS	1.186660697	1.226991645
ADAMTSL2	9.23889282	8.130247237	6.65E-51	9.23889282	8.764137288	0.000348856	ECM_REGULATORS	1.136360624	1.054170253
AGRN	13.90995289	13.26102169	3.25E-31	13.90995289	13.01676949	7.37E-25	BASEMENT_MEMBRANES	1.048935234	1.068617901
AGRN	13.90995289	13.26102169	3.25E-31	13.90995289	13.01676949	7.37E-25	ECM_GLYCOPROTEINS	1.048935234	1.068617901
ANGPT2	8.726709632	8.569085831	0.02065568	8.726709632	8.275672881	0.000635881	SECRETED_FACTORS	1.018394471	1.05450152
ANGPTL4	10.23180981	9.264555022	6.60E-21	10.23180981	9.310684746	3.88E-07	SECRETED_FACTORS	1.104403804	1.098932043
ANXA1	14.84928196	12.46585992	1.44E-163	14.84928196	13.61248475	9.41E-12	ECM_AFFILIATED	1.191195959	1.090857565
ANXA5	13.76640333	13.36005709	5.50E-20	13.76640333	13.47913051	3.21E-07	ECM_AFFILIATED	1.030415008	1.021312415
BMP1	11.40903748	10.5945713	1.23E-66	11.40903748	10.22187797	6.12E-31	ECM_REGULATORS	1.076875803	1.116139081
BRINP2	4.537763398	3.054232069	1.32E-26	4.537763398	2.061559322	1.32E-13	SECRETED_FACTORS	1.485729733	2.201131614
BTC	8.721982312	6.33524282	7.48E-127	8.721982312	8.51199322	0.010564049	SECRETED_FACTORS	1.376740018	1.024669791
C17orf58	8.887916462	8.754446864	0.000529672	8.887916462	8.638189831	5.18E-07	ECM_REGULATORS	1.01524592	1.028909602
C1QL2	3.474726445	1.509790369	4.34E-87	3.474726445	2.686062712	0.029043844	ECM_AFFILIATED	2.301462849	1.293613299
C1QL4	6.383875131	3.428420754	1.46E-137	6.383875131	5.589967797	0.000437004	ECM_AFFILIATED	1.862045411	1.142023597
CBLN1	7.631945009	3.791499889	1.13E-251	7.631945009	5.57979322	4.55E-10	SECRETED_FACTORS	2.0129092	1.367782767
CBLN4	5.488711909	3.231295835	1.20E-93	5.488711909	4.010559322	4.25E-08	SECRETED_FACTORS	1.698610152	1.368565197
CCL13	5.636687916	4.421987354	1.51E-26	5.636687916	3.876461017	6.47E-08	SECRETED_FACTORS	1.274695621	1.454080898
CCL17	4.868334501	3.564475323	6.70E-48	4.868334501	3.157930508	1.38E-06	SECRETED_FACTORS	1.365792735	1.541621796
CCL18	8.113516112	7.02659162	3.98E-14	8.113516112	7.059054237	0.004483402	SECRETED_FACTORS	1.154687301	1.149377217
CILP2	7.857487741	6.250372045	2.51E-49	7.857487741	7.453645763	0.005172667	ECM_GLYCOPROTEINS	1.257123205	1.054180463
CLCF1	8.822992995	7.649952713	1.96E-53	8.822992995	8.445545763	0.011664945	SECRETED_FACTORS	1.153339547	1.04469187
CLEC14A	10.28760648	8.945370674	1.02E-103	10.28760648	9.479788136	2.11E-13	ECM_AFFILIATED	1.150048092	1.08521481
CLEC5A	6.740581436	6.193457221	5.91E-09	6.740581436	5.995201695	0.000626978	ECM_AFFILIATED	1.088339064	1.124329385
COL13A1	8.257457793	6.271441055	1.40E-137	8.257457793	5.498889831	2.76E-33	COLLAGENS	1.316676298	1.501659071
COL15A1	11.12306182	10.44342349	7.71E-13	11.12306182	10.46128136	3.62E-07	BASEMENT_MEMBRANES	1.065078117	1.063259982
COL15A1	11.12306182	10.44342349	7.71E-13	11.12306182	10.46128136	3.62E-07	COLLAGENS	1.065078117	1.063259982
COL19A1	3.904593695	2.498159056	1.93E-46	3.904593695	2.236208475	2.44E-07	COLLAGENS	1.562988428	1.746077676
COL21A1	6.928415412	6.110485488	1.08E-17	6.928415412	6.423055932	0.002882797	COLLAGENS	1.133856782	1.078678978
COL8A1	13.05528459	9.603310458	1.50E-208	13.05528459	11.85196271	5.17E-17	COLLAGENS	1.359456684	1.101529334
COL8A2	11.2203718	8.781896622	9.95E-166	11.2203718	10.21841864	1.31E-05	COLLAGENS	1.277670677	1.098053642
COMP	8.388894571	7.166548346	6.26E-14	8.388894571	5.376869492	8.30E-13	ECM_GLYCOPROTEINS	1.170562754	1.560181921
CRLF1	9.517294571	6.949789088	8.60E-176	9.517294571	7.395266102	1.14E-08	SECRETED_FACTORS	1.369436461	1.286944167
CSF2	3.803716462	1.981982291	1.53E-82	3.803716462	0.647801695	8.10E-23	SECRETED_FACTORS	1.919147552	5.871729716
CST2	4.164488792	3.573344635	1.21E-06	4.164488792	0.932377966	1.13E-14	ECM_REGULATORS	1.16543161	4.466524246
CST5	3.207081611	1.559503187	5.18E-65	3.207081611	0.418108475	1.07E-16	ECM_REGULATORS	2.056476472	7.670453498
CST6	10.27843923	4.678879942	0	10.27843923	8.280054237	1.16E-07	ECM_REGULATORS	2.19677345	1.241349264
CTSB	18.1948993	15.06274782	0	18.1948993	17.32132712	6.42E-14	ECM_REGULATORS	1.207940245	1.050433329
CTSC	12.69760438	12.13208134	6.55E-18	12.69760438	11.24594746	3.29E-15	ECM_REGULATORS	1.046613851	1.12908267
CTSH	13.09107671	12.08135141	5.22E-63	13.09107671	11.19838644	6.78E-21	ECM_REGULATORS	1.083577181	1.169014552

CTSS	11.77595587	11.40015797	1.82E-08	11.77595587	10.69974068	1.75E-11	ECM_REGULATORS	1.032964271	1.100583296
CX3CL1	11.68674781	10.6105555	4.48E-33	11.68674781	10.5807661	1.33E-21	SECRETED_FACTORS	1.101426576	1.104527564
CXCL14	10.45124326	9.898353691	0.00046876	10.45124326	9.258169492	0.013666581	SECRETED_FACTORS	1.05585672	1.128867134
DHH	3.998536778	3.105733017	3.00E-43	3.998536778	3.636674576	0.009547067	SECRETED_FACTORS	1.287469578	1.099503597
DMP1	1.797028021	1.402916095	3.84E-09	1.797028021	0.583476271	6.37E-08	ECM_GLYCOPROTEINS	1.280923376	3.079864786
EBI3	6.46606007	6.044574183	6.33E-10	6.46606007	4.865845763	3.53E-11	SECRETED_FACTORS	1.069729624	1.328866632
ECM1	10.22317023	10.03369264	0.026251335	10.22317023	7.827081356	6.52E-14	ECM_GLYCOPROTEINS	1.018884133	1.306128014
EGFL7	10.61128424	9.705162697	1.15E-54	10.61128424	10.0956	1.72E-05	SECRETED_FACTORS	1.0933649	1.051080098
EMILIN2	10.41825201	9.268787848	4.33E-71	10.41825201	9.040023729	1.39E-18	ECM_GLYCOPROTEINS	1.124014508	1.152458481
EMILIN3	5.347065499	4.925947338	0.000128167	5.347065499	3.923171186	1.19E-08	ECM_GLYCOPROTEINS	1.085489781	1.362944731
ESM1	8.377387916	7.662091529	4.33E-11	8.377387916	6.454432203	7.73E-16	PROTEOGLYCANS	1.093355239	1.297927943
FAM20A	10.70894291	8.45314401	1.29E-133	10.70894291	8.812972881	6.00E-12	ECM_REGULATORS	1.266859159	1.215133991
FAM20C	10.81234483	10.67142596	0.015464432	10.81234483	10.06893729	1.05E-08	ECM_REGULATORS	1.013205253	1.073831778
FBN3	9.126610158	3.96847264	2.07E-280	9.126610158	8.056616949	5.14E-06	ECM_GLYCOPROTEINS	2.29977903	1.132809244
FCN3	6.738771979	5.649724334	1.27E-30	6.738771979	5.534820339	7.55E-13	ECM_AFFILIATED	1.1927612	1.217523165
FGF1	8.654111909	7.038787152	3.11E-49	8.654111909	7.4468	7.34E-19	SECRETED_FACTORS	1.229489076	1.162124927
FGF2	8.440933975	7.78028332	1.12E-13	8.440933975	7.847550847	8.61E-06	SECRETED_FACTORS	1.084913444	1.075613798
FGF20	3.889862522	1.770485085	3.21E-152	3.889862522	2.954781356	8.79E-06	SECRETED_FACTORS	2.197060317	1.316463742
FN1	17.00291454	15.05863349	2.69E-83	17.00291454	12.95730339	6.45E-23	ECM_GLYCOPROTEINS	1.129114042	1.312226319
GAS6	13.11575306	11.65785705	3.43E-125	13.11575306	12.61871695	9.76E-09	ECM_GLYCOPROTEINS	1.125056947	1.0393888
GLDN	6.474608932	6.212625777	0.005760986	6.474608932	4.721613559	1.30E-06	ECM_GLYCOPROTEINS	1.042169473	1.371270404
GPC4	10.24726918	9.918893596	0.000512691	10.24726918	9.987601695	0.0026541	ECM_AFFILIATED	1.033106069	1.025998983
HSPG2	13.69084273	13.35272191	1.07E-07	13.69084273	13.26746102	1.06E-05	PROTEOGLYCANS	1.025322239	1.031911284
HSPG2	13.69084273	13.35272191	1.07E-07	13.69084273	13.26746102	1.06E-05	BASEMENT_MEMBRANES	1.025322239	1.031911284
HYAL2	11.86111734	11.12148919	2.31E-106	11.86111734	11.16034068	1.90E-19	ECM_REGULATORS	1.066504416	1.062791691
IGFALS	6.073010858	4.351310266	3.48E-58	6.073010858	5.670486441	0.048261151	ECM_GLYCOPROTEINS	1.395674058	1.070985871
IGFBP4	14.48250438	13.39599055	7.08E-47	14.48250438	14.17847966	0.001279866	ECM_GLYCOPROTEINS	1.08110739	1.021442688
IGFBP6	11.40438722	8.669294353	3.34E-186	11.40438722	9.949230508	3.08E-07	ECM_GLYCOPROTEINS	1.315491983	1.146258216
KCP	7.204837478	5.899193556	9.26E-39	7.204837478	5.181405085	1.76E-18	ECM_GLYCOPROTEINS	1.221325832	1.390518085
LAMA5	12.9925373	12.29371693	2.57E-30	12.9925373	12.53715593	4.16E-09	BASEMENT_MEMBRANES	1.056843701	1.036322542
LAMA5	12.9925373	12.29371693	2.57E-30	12.9925373	12.53715593	4.16E-09	ECM_GLYCOPROTEINS	1.056843701	1.036322542
LAMB3	11.15101961	10.80378306	0.004821096	11.15101961	7.82520678	6.20E-21	ECM_GLYCOPROTEINS	1.032140275	1.425012773
LAMB3	11.15101961	10.80378306	0.004821096	11.15101961	7.82520678	6.20E-21	BASEMENT_MEMBRANES	1.032140275	1.425012773
LAMC1	13.32744431	12.76824901	8.28E-23	13.32744431	12.8864661	3.26E-10	ECM_GLYCOPROTEINS	1.04379577	1.034220259
LAMC1	13.32744431	12.76824901	8.28E-23	13.32744431	12.8864661	3.26E-10	BASEMENT_MEMBRANES	1.04379577	1.034220259
LAMC2	12.66008511	9.975507463	3.11E-58	12.66008511	11.73135085	1.10E-14	BASEMENT_MEMBRANES	1.269116901	1.079166865
LAMC2	12.66008511	9.975507463	3.11E-58	12.66008511	11.73135085	1.10E-14	ECM_GLYCOPROTEINS	1.269116901	1.079166865
LGALS13	0.862830473	0.057909036	1.03E-243	0.862830473	0.226916949	0.004495667	ECM_AFFILIATED	14.89975544	3.802406458
LGALS3	12.93674974	12.37384743	2.09E-14	12.93674974	11.01799831	9.44E-18	ECM_AFFILIATED	1.045491292	1.174147007
LTBP3	13.75566252	12.08049001	9.39E-234	13.75566252	13.4429322	0.001531067	ECM_GLYCOPROTEINS	1.138667597	1.023263549
MFGE8	12.71976305	11.72169367	1.07E-56	12.71976305	11.0242	1.94E-23	ECM_GLYCOPROTEINS	1.085147199	1.153803727
MMP16	8.287093695	6.760333068	1.20E-42	8.287093695	6.325005085	1.70E-13	ECM_REGULATORS	1.225841037	1.310211389
MMRN2	10.57418144	9.674913271	1.09E-47	10.57418144	10.13646102	4.98E-06	ECM_GLYCOPROTEINS	1.092948447	1.043182766
MUC20	9.319869002	9.005013927	0.005395907	9.319869002	8.561118644	2.07E-06	ECM_AFFILIATED	1.034964418	1.088627478
MUC21	6.660997198	2.328207352	1.52E-175	6.660997198	1.749169492	6.14E-22	ECM_AFFILIATED	2.860998267	3.808091343
MXRA5	12.12006077	10.97968525	1.50E-25	12.12006077	11.6121322	0.000403392	ECM_GLYCOPROTEINS	1.103862315	1.043741197

NELL2	11.48074711	7.631686729	1.74E-252	11.48074711	10.05358814	2.91E-06	ECM_GLYCOPROTEINS	1.504352513	1.141955186
OIT3	5.302952014	3.187741398	1.23E-99	5.302952014	2.403528814	2.44E-31	ECM_GLYCOPROTEINS	1.663545235	2.206319302
P4HA2	11.36333363	10.66534336	7.63E-30	11.36333363	9.724889831	2.89E-39	ECM_REGULATORS	1.065444706	1.16847942
P4HTM	11.48474991	10.2400072	9.70E-113	11.48474991	11.22337966	3.53E-06	ECM_REGULATORS	1.12155682	1.023288017
PAPLN	11.21737338	9.088080436	7.59E-185	11.21737338	10.51503051	3.07E-06	ECM_GLYCOPROTEINS	1.234295125	1.066794183
PAPLN	11.21737338	9.088080436	7.59E-185	11.21737338	10.51503051	3.07E-06	BASEMENT_MEMBRANES	1.234295125	1.066794183
PAPPA	7.111150263	6.717022509	3.77E-05	7.111150263	6.617530508	0.015921445	ECM_REGULATORS	1.058675961	1.074592743
PCSK5	9.363401401	8.295824738	2.17E-47	9.363401401	9.068545763	0.03129846	ECM_REGULATORS	1.12868843	1.032514104
PLAU	11.38469037	10.54549264	2.46E-20	11.38469037	9.066301695	3.96E-18	ECM_REGULATORS	1.079578808	1.255714927
PLOD2	12.9541697	11.05678794	2.71E-136	12.9541697	12.77863898	0.011054703	ECM_REGULATORS	1.171603342	1.013736261
PLXNA2	11.29700946	10.49081166	1.02E-47	11.29700946	11.0224339	0.00210332	ECM_AFFILIATED	1.076847991	1.024910611
PLXNA3	11.01710315	10.72102504	3.19E-10	11.01710315	10.18190508	2.37E-19	ECM_AFFILIATED	1.027616586	1.082027682
PLXNA4	8.834649037	6.83596427	1.47E-75	8.834649037	7.467186441	3.27E-10	ECM_AFFILIATED	1.292377884	1.183129564
PLXNB1	12.56708564	11.82785667	1.82E-45	12.56708564	12.18867627	5.14E-07	ECM_AFFILIATED	1.06249898	1.031045977
PLXNB2	14.42938441	13.64021125	3.62E-100	14.42938441	13.77036949	1.13E-14	ECM_AFFILIATED	1.057856374	1.047857461
PLXNC1	10.6593613	9.605555587	7.80E-52	10.6593613	8.853322034	1.55E-16	ECM_AFFILIATED	1.109707939	1.203995659
PLXND1	12.41944623	11.83579492	1.49E-32	12.41944623	11.11547119	2.86E-35	ECM_AFFILIATED	1.049312389	1.11731172
PRSS1	4.343289142	1.994286507	1.05E-67	4.343289142	0.812313559	3.85E-17	ECM_REGULATORS	2.177866183	5.346813545
PRSS2	5.757888091	3.079281333	3.46E-66	5.757888091	1.628315254	1.69E-18	ECM_REGULATORS	1.869880491	3.536101548
RSP04	8.08866725	3.97335598	2.49E-282	8.08866725	6.570837288	1.82E-07	ECM_GLYCOPROTEINS	2.035726799	1.230994909
SDC4	14.36031331	12.76898026	8.59E-105	14.36031331	12.49631186	7.14E-23	ECM_AFFILIATED	1.124624912	1.149164127
SEMA3E	6.557032925	5.122243505	1.96E-24	6.557032925	5.888342373	0.016006297	ECM_AFFILIATED	1.280109569	1.113561765
SEMA3F	11.46077268	10.57641549	9.89E-30	11.46077268	10.2562322	1.11E-29	ECM_AFFILIATED	1.083615965	1.117444735
SERPINA1	14.47703713	11.7294482	2.14E-87	14.47703713	11.0922322	8.99E-21	ECM_REGULATORS	1.234247074	1.305150926
SERPINA2	0.17968704	0.137456101	0.031459902	0.17968704	0	0.000317357	ECM_REGULATORS	1.30723219	Inf
SERPINB8	8.889187215	8.776352047	0.03048604	8.889187215	8.597933898	0.004159338	ECM_REGULATORS	1.012856728	1.033874803
SFTA2	4.751644133	3.044728953	1.83E-28	4.751644133	3.344011864	1.55E-08	ECM_AFFILIATED	1.56061318	1.420941171
SFTA3	12.81639124	1.586582745	0	12.81639124	12.27791017	8.65E-07	ECM_AFFILIATED	8.077984765	1.043857714
SFTPA1	4.847377233	2.429937404	9.88E-36	4.847377233	1.790011864	2.82E-09	ECM_AFFILIATED	1.994856832	2.708014025
SFTPB	12.27154378	3.639111718	0	12.27154378	9.326594915	1.44E-08	ECM_AFFILIATED	3.372126148	1.315758205
SLIT1	9.332044483	5.210268879	1.22E-239	9.332044483	4.686608475	1.46E-28	ECM_GLYCOPROTEINS	1.791086929	1.99121487
SLPI	9.963256567	9.619575161	0.044624172	9.963256567	8.101537288	6.85E-08	ECM_REGULATORS	1.035727296	1.229798273
SPOCK1	9.647773555	9.335348175	0.009055464	9.647773555	8.057715254	2.32E-09	PROTEOGLYCANS	1.033466923	1.197333642
SPOCK2	12.30760893	10.57693546	4.97E-80	12.30760893	10.64100847	3.68E-10	PROTEOGLYCANS	1.163627119	1.156620537
ST14	12.98721629	11.64842446	9.89E-34	12.98721629	12.35942034	6.86E-14	ECM_REGULATORS	1.114933297	1.050794935
TGM1	6.916828722	6.286314502	1.48E-07	6.916828722	5.839150847	3.15E-07	ECM_REGULATORS	1.100299503	1.184560718
TIMP1	13.64643275	13.03192651	2.51E-16	13.64643275	11.38380508	4.25E-19	ECM_REGULATORS	1.047153906	1.198758469
TINAGL1	11.81558949	10.54044506	1.42E-48	11.81558949	11.49211695	0.000516717	ECM_GLYCOPROTEINS	1.120976337	1.028147342
WNT10A	6.524623818	5.937454296	7.88E-07	6.524623818	4.509754237	1.75E-07	SECRETED_FACTORS	1.09889247	1.446780351
WNT3	7.802292995	6.946693294	7.66E-32	7.802292995	6.606927119	4.95E-14	SECRETED_FACTORS	1.123166471	1.180926148
WNT5A	9.616122417	9.052331202	9.49E-09	9.616122417	8.976315254	1.60E-05	SECRETED_FACTORS	1.062281329	1.071277261
WNT8A	0.486871103	0.300465258	5.60E-08	0.486871103	0.270888136	0.010431094	SECRETED_FACTORS	1.620390678	1.797314239
WNT9B	2.561282312	1.97402734	5.59E-16	2.561282312	2.046164407	0.002450592	SECRETED_FACTORS	1.2974908	1.251748053
VWA1	11.64718249	11.52490643	0.045242187	11.64718249	10.55708305	2.53E-19	ECM_GLYCOPROTEINS	1.010609722	1.103257636
VWA5A	10.30417128	9.624493223	1.40E-31	10.30417128	10.04003559	0.000598025	ECM_GLYCOPROTEINS	1.07061962	1.026308242
VWA5B2	5.427716462	4.443911154	7.55E-20	5.427716462	4.663959322	1.03E-05	ECM_GLYCOPROTEINS	1.221382758	1.163757247

<b>VWA7</b>	8.128580035	6.503785629	3.15E-98	8.128580035	7.673132203	0.000101397	ECM_GLYCOPROTEINS	1.249822872	1.059356182
<b>VWF</b>	12.68139159	12.17949211	3.38E-14	12.68139159	12.32339492	0.012134172	ECM_GLYCOPROTEINS	1.041208572	1.029050167

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**Thymoma (THYM)**

<b>Signature genes</b>	<b>Expression in tumor</b>	<b>Expression in rest of Pan-Cancer</b>	<b>P-value</b>	<b>Expression in tumor</b>	<b>Expression in normal tissue</b>	<b>P-value</b>	<b>Matrisome category</b>	<b>Fold change vs. Pan-Cancer</b>	<b>Fold change vs. normal</b>
<b>IGFBP2</b>	13.22729587	11.54194636	4.04E-15	13.22729587	11.0395	0.023480987	ECM_GLYCOPROTEINS	1.146019523	1.198178891

**Uterine corpus endometrioid carcinoma (UCEC)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
ADAM2	1.25977451	0.555867918	9.12E-11	1.25977451	0.176886957	0.007768883	ECM_REGULATORS	2.266319874	7.121918623
ADAMTS14	7.009025	6.637393689	0.012339467	7.009025	5.380973913	1.95E-05	ECM_REGULATORS	1.055990548	1.302556956
ADAMTS15	9.175752941	7.674470536	1.67E-19	9.175752941	8.121178261	0.017450027	ECM_REGULATORS	1.195620323	1.129854886
AGRN	13.75570882	13.22559015	3.79E-09	13.75570882	12.39993913	2.23E-09	BASEMENT_MEMBRANES	1.040082799	1.109336802
AGRN	13.75570882	13.22559015	3.79E-09	13.75570882	12.39993913	2.23E-09	ECM_GLYCOPROTEINS	1.040082799	1.109336802
AMBN	1.137540686	0.341289915	6.00E-29	1.137540686	0.070569565	0.04312775	ECM_GLYCOPROTEINS	3.333062704	16.11942319
AMH	5.806248529	4.810524026	5.68E-09	5.806248529	3.61996087	5.78E-05	SECRETED_FACTORS	1.206988781	1.603953396
ANXA3	9.906577451	9.076169795	1.36E-05	9.906577451	9.286073913	0.027298608	ECM_AFFILIATED	1.091493182	1.06682087
ARTN	6.930994118	5.393294866	6.97E-24	6.930994118	5.172126087	1.42E-09	SECRETED_FACTORS	1.285113143	1.340066735
BMP3	5.436103431	3.637397748	5.29E-15	5.436103431	4.091126087	0.031072481	SECRETED_FACTORS	1.494503436	1.328754801
C1QL4	5.277604902	3.43054719	1.20E-21	5.277604902	2.624256522	1.55E-06	ECM_AFFILIATED	1.538414897	2.011085753
C1QTNF6	9.882488725	9.372857133	2.09E-07	9.882488725	9.2978	0.027416453	ECM_AFFILIATED	1.054373131	1.062884631
CCL25	2.945980882	2.153530357	1.26E-05	2.945980882	1.777291304	0.004965522	SECRETED_FACTORS	1.367977411	1.657567825
CCL28	8.281962255	7.860008797	0.011459314	8.281962255	7.433013043	0.017822473	SECRETED_FACTORS	1.053683586	1.114213335
CCL7	2.698642157	2.221031615	0.000923369	2.698642157	0.983704348	2.93E-05	SECRETED_FACTORS	1.215039956	2.743346782
CELA3B	0.994448039	0.503059487	1.47E-05	0.994448039	0.277021739	0.010281359	ECM_REGULATORS	1.976800092	3.589783395
CILP2	7.118513235	6.188143638	1.32E-07	7.118513235	4.789313043	7.82E-07	ECM_GLYCOPROTEINS	1.150347124	1.486332835
CLEC18B	5.340330882	4.364986404	3.05E-07	5.340330882	3.29926087	9.56E-06	ECM_AFFILIATED	1.223447312	1.618644628
COCH	6.96695049	6.48871872	0.007368587	6.96695049	5.475704348	0.000370407	ECM_GLYCOPROTEINS	1.073702034	1.272338689
COL18A1	14.20038775	12.81815479	2.75E-40	14.20038775	13.63617826	0.005368289	BASEMENT_MEMBRANES	1.107834004	1.041375925
COL18A1	14.20038775	12.81815479	2.75E-40	14.20038775	13.63617826	0.005368289	COLLAGENS	1.107834004	1.041375925
COL26A1	8.344038235	4.61903543	3.93E-81	8.344038235	5.604513043	1.79E-05	COLLAGENS	1.806446034	1.488806997
COL9A1	5.775592157	3.818673772	5.54E-23	5.775592157	3.733295652	0.007373962	COLLAGENS	1.512460216	1.547049228
COL9A2	10.62331618	8.640044349	4.41E-40	10.62331618	9.057813043	9.92E-05	COLLAGENS	1.229544172	1.17283456
CRELD2	10.90774951	10.41534795	1.15E-17	10.90774951	10.19903478	0.000323651	ECM_GLYCOPROTEINS	1.047276535	1.069488412
CSPG5	7.208827941	5.934973549	1.70E-12	7.208827941	4.663552174	8.94E-10	ECM_AFFILIATED	1.214635227	1.545780485
CST6	5.639136765	4.891841782	0.001542159	5.639136765	3.41056087	2.35E-05	ECM_REGULATORS	1.152763523	1.653433843
CSTB	12.95240686	12.69972501	0.00659123	12.95240686	11.57508696	4.48E-11	ECM_REGULATORS	1.01989664	1.118990027
CSTL1	0.794610294	0.550957741	0.000374308	0.794610294	0.070821739	0.006068432	ECM_REGULATORS	1.442234557	11.21986418
CTSV	9.830607353	7.273498235	6.91E-43	9.830607353	6.566747826	5.36E-10	ECM_REGULATORS	1.351565235	1.497028303
CXCL3	5.983512255	5.303557102	0.000316713	5.983512255	4.622030435	0.008136191	SECRETED_FACTORS	1.128207378	1.294563577
CXCL5	5.951929412	5.052951755	0.000211918	5.951929412	3.418186957	0.000292262	SECRETED_FACTORS	1.177911387	1.741253327
EGFL6	7.937783333	5.700566873	2.38E-26	7.937783333	6.408521739	0.001014967	SECRETED_FACTORS	1.392455086	1.238629384
EGLN3	10.64701225	9.586904109	3.93E-10	10.64701225	9.265617391	7.59E-05	ECM_REGULATORS	1.110578778	1.14908827
EMID1	10.93848529	7.99631111	2.84E-118	10.93848529	10.09030435	0.039632563	ECM_GLYCOPROTEINS	1.367941435	1.084059005
ESM1	8.214661765	7.674007447	0.002872182	8.214661765	5.764843478	1.58E-08	PROTEOGLYCANS	1.07045267	1.424958335
FBN2	9.191601471	7.118162206	1.68E-29	9.191601471	7.685291304	0.012510179	ECM_GLYCOPROTEINS	1.291288566	1.195999098
FGF18	9.066966176	4.587133837	2.48E-222	9.066966176	6.553856522	8.90E-08	SECRETED_FACTORS	1.976608161	1.383455092
FGF3	1.542066667	0.352845323	4.85E-41	1.542066667	0.113369565	0.009915844	SECRETED_FACTORS	4.370375821	13.60212208
FGF4	1.205833333	0.464769136	2.66E-12	1.205833333	0.084634783	0.02339458	SECRETED_FACTORS	2.594478078	14.24749135
FRAS1	9.84159902	8.321466934	9.45E-18	9.84159902	8.825286957	0.007026122	ECM_GLYCOPROTEINS	1.182675975	1.115159095

GPC2	6.881244118	5.516158391	7.90E-20	6.881244118	5.452595652	8.98E-05	ECM_AFFILIATED	1.247470364	1.262012545
HAPLN1	7.217173039	5.175917735	2.25E-21	7.217173039	2.752743478	1.40E-14	PROTEOGLYCANS	1.394375531	2.621810966
HAPLN3	10.69941225	8.43607989	1.27E-73	10.69941225	8.978226087	6.33E-07	PROTEOGLYCANS	1.268291955	1.191706708
HYAL3	7.521334314	7.050463809	1.33E-11	7.521334314	6.614234783	8.31E-06	ECM_REGULATORS	1.066785749	1.137143534
IGFBP2	13.41750098	11.38359689	1.16E-36	13.41750098	12.29811739	0.004892505	ECM_GLYCOPROTEINS	1.178669722	1.091020727
KAZALD1	9.309138725	7.345047088	4.17E-57	9.309138725	8.446686957	0.026069037	ECM_REGULATORS	1.267403546	1.102105331
KCP	6.880545098	5.905436181	4.34E-09	6.880545098	5.01146087	0.000248199	ECM_GLYCOPROTEINS	1.165120558	1.372961952
LAMA1	9.202537745	7.303030205	2.95E-22	9.202537745	7.163873913	0.000226808	ECM_GLYCOPROTEINS	1.260098546	1.284575616
LAMA1	9.202537745	7.303030205	2.95E-22	9.202537745	7.163873913	0.000226808	BASEMENT_MEMBRANES	1.260098546	1.284575616
LAMA5	13.13214314	12.23349818	2.12E-20	13.13214314	12.27125652	0.000135433	BASEMENT_MEMBRANES	1.073457726	1.070154724
LAMA5	13.13214314	12.23349818	2.12E-20	13.13214314	12.27125652	0.000135433	ECM_GLYCOPROTEINS	1.073457726	1.070154724
LAMB4	3.686614706	3.049299148	5.68E-07	3.686614706	2.650082609	0.004067901	BASEMENT_MEMBRANES	1.209003947	1.391131995
LAMB4	3.686614706	3.049299148	5.68E-07	3.686614706	2.650082609	0.004067901	ECM_GLYCOPROTEINS	1.209003947	1.391131995
LAMC2	11.81622843	9.999060248	7.58E-11	11.81622843	10.3531	0.00065014	ECM_GLYCOPROTEINS	1.181733897	1.141322737
LAMC2	11.81622843	9.999060248	7.58E-11	11.81622843	10.3531	0.00065014	BASEMENT_MEMBRANES	1.181733897	1.141322737
LGALS14	0.891853431	0.363141427	6.47E-15	0.891853431	0.179104348	0.030346367	ECM_AFFILIATED	2.455939659	4.9795186
LGALS7	3.358035784	2.66306872	0.002785256	3.358035784	1.202713043	6.77E-05	ECM_AFFILIATED	1.260964751	2.792050691
LGALS9	11.59434167	10.8248943	8.47E-14	11.59434167	10.73176957	0.001530684	ECM_AFFILIATED	1.071081282	1.080375571
LOXL1	9.91242598	9.145221246	2.97E-08	9.91242598	9.456017391	0.040403901	ECM_REGULATORS	1.083891326	1.048266471
LRG1	9.677417647	8.301315179	1.07E-10	9.677417647	8.565013043	0.020659627	ECM_GLYCOPROTEINS	1.165769211	1.129877748
MATN4	3.362613725	2.522882143	1.89E-11	3.362613725	1.969578261	0.000936568	ECM_GLYCOPROTEINS	1.33284614	1.707276016
MFAP2	11.8549451	8.950824838	2.39E-53	11.8549451	10.9845	0.020607537	ECM_GLYCOPROTEINS	1.324452809	1.079243033
MMP10	6.72962451	4.640318172	6.32E-16	6.72962451	4.30173913	0.001390364	ECM_REGULATORS	1.450250664	1.564396237
MMP11	12.44240245	9.873782752	1.82E-37	12.44240245	11.39246087	0.010579988	ECM_REGULATORS	1.260145454	1.092161087
MMP12	7.007539706	5.718196073	3.39E-06	7.007539706	2.976891304	3.52E-11	ECM_REGULATORS	1.225480836	2.35397903
MMP15	11.36485588	10.75782345	2.07E-08	11.36485588	9.910326087	1.04E-09	ECM_REGULATORS	1.056427068	1.146769116
MUC1	13.4798201	10.67021314	3.67E-34	13.4798201	11.26607391	4.44E-07	ECM_AFFILIATED	1.263313106	1.196496686
MUC16	10.96241912	4.797925548	1.06E-114	10.96241912	9.406586957	0.008556031	ECM_AFFILIATED	2.284824766	1.165398159
MUC20	10.0669049	8.894625619	2.35E-10	10.0669049	8.74333913	0.002719038	ECM_AFFILIATED	1.13179636	1.151379896
MUC4	7.290420098	6.646361627	0.019074082	7.290420098	5.7899	0.012720882	ECM_AFFILIATED	1.096903916	1.25916166
MUC5AC	5.143475	3.154161932	2.00E-11	5.143475	1.70486087	1.71E-06	ECM_AFFILIATED	1.630694654	3.016947067
NGLY1	10.09489608	9.957309619	0.000680384	10.09489608	9.664343478	4.26E-05	ECM_REGULATORS	1.013817634	1.044550631
OGFOD2	9.398629412	9.065212338	9.54E-13	9.398629412	8.88106087	0.000633873	ECM_REGULATORS	1.036779842	1.058277783
OTOG	2.449189706	1.231771002	2.49E-20	2.449189706	0.231069565	1.02E-06	ECM_GLYCOPROTEINS	1.988348241	10.59936086
P4HA1	11.55693529	11.10732871	1.57E-10	11.55693529	10.88210435	4.28E-05	ECM_REGULATORS	1.040478372	1.062012909
PI3	7.432301471	5.777735146	3.08E-07	7.432301471	2.92613913	4.94E-09	ECM_REGULATORS	1.286369361	2.539968586
PLOD1	13.48194216	12.50256311	2.64E-46	13.48194216	12.6600087	6.24E-06	ECM_REGULATORS	1.078334262	1.06492361
PLXNB1	12.54746667	11.80080558	9.76E-19	12.54746667	11.80721304	0.000182058	ECM_AFFILIATED	1.063272044	1.062695034
PLXNB2	13.84316618	13.66575592	0.003596769	13.84316618	13.46838696	0.010400115	ECM_AFFILIATED	1.012982104	1.027826585
PRSS1	3.392787745	1.860342269	3.56E-13	3.392787745	0.573565217	8.33E-05	ECM_REGULATORS	1.823743836	5.915260623
PRSS2	5.185112255	2.955715686	3.46E-19	5.185112255	1.281695652	5.30E-08	ECM_REGULATORS	1.754266244	4.045509748
RSPO4	4.789696078	4.043109953	7.59E-05	4.789696078	3.29873913	0.024422621	ECM_GLYCOPROTEINS	1.184656399	1.451977828
SEMA3F	11.03173235	10.55742698	0.000230002	11.03173235	10.24145652	0.000326563	ECM_AFFILIATED	1.044926228	1.077164398
SEMA4D	10.74612059	10.42550944	6.80E-05	10.74612059	10.0256913	2.92E-06	ECM_AFFILIATED	1.030752565	1.071858315
SEMA4F	8.855987745	8.659497007	0.007053614	8.855987745	8.48786087	0.021818293	ECM_AFFILIATED	1.02269078	1.043370984
SFTA2	5.009406863	3.122960166	1.89E-13	5.009406863	3.440447826	0.021089012	ECM_AFFILIATED	1.604057239	1.456033376



<b>SLPI</b>	13.43571029	9.350146459	7.97E-50	13.43571029	10.82352609	8.95E-06	ECM_REGULATORS	1.436951854	1.24134318
<b>SPP1</b>	12.42730392	11.94316859	0.030259761	12.42730392	9.076826087	1.69E-11	ECM_GLYCOPROTEINS	1.04053659	1.369124384
<b>ST14</b>	13.16738873	11.62216987	4.03E-17	13.16738873	10.1137087	6.47E-15	ECM_REGULATORS	1.13295442	1.301934742
<b>TGM3</b>	5.601064216	3.9904153	2.29E-12	5.601064216	3.809708696	0.002393461	ECM_REGULATORS	1.403629395	1.470208004
<b>TGM5</b>	4.021237255	2.949439448	1.27E-08	4.021237255	1.308186957	2.63E-07	ECM_REGULATORS	1.363390341	3.073901047
<b>TGM7</b>	3.607103922	0.533153805	1.47E-304	3.607103922	1.219634783	1.16E-05	ECM_REGULATORS	6.765597261	2.95752792
<b>WNT10A</b>	6.392014216	5.772225994	0.000871628	6.392014216	4.16966087	0.000180249	SECRETED_FACTORS	1.107374213	1.532981798
<b>WNT3A</b>	3.423218137	2.756148488	0.000405517	3.423218137	2.221704348	0.008000136	SECRETED_FACTORS	1.242029648	1.540807237
<b>WNT7A</b>	8.431003431	3.478866092	4.96E-105	8.431003431	5.876117391	0.000917971	SECRETED_FACTORS	2.423491796	1.434791525
<b>VWA1</b>	12.1498848	11.46398755	5.26E-12	12.1498848	11.65517391	0.015342231	ECM_GLYCOPROTEINS	1.0598306	1.042445604
<b>ZP3</b>	8.354165196	7.719755915	8.58E-10	8.354165196	7.57853913	0.005926778	ECM_GLYCOPROTEINS	1.082179966	1.102345063

**Uterine Carcinosarcoma (UCS)**

Signature genes	Expression in tumor	Expression in rest of Pan-Cancer	P-value	Expression in tumor	Expression in normal tissue	P-value	Matrisome category	Fold change vs. Pan-Cancer	Fold change vs. normal
ACAN	7.857208772	6.486774535	1.84E-05	7.857208772	5.695634783	9.38E-05	PROTEOGLYCANS	1.211265896	1.379514149
ADAM12	9.442970175	8.45376836	0.003707233	9.442970175	7.305026087	0.000101758	ECM_REGULATORS	1.11701312	1.29266755
ADAM18	0.923198246	0.466232387	0.006022229	0.923198246	0.033043478	0.003379328	ECM_REGULATORS	1.980124656	27.93889428
ADAM19	9.859257895	9.052868667	0.00019911	9.859257895	8.919530435	0.000189325	ECM_REGULATORS	1.089075547	1.105356158
ADAM21	4.239205263	2.916992167	1.53E-11	4.239205263	2.62113913	2.95E-05	ECM_REGULATORS	1.453279618	1.617314096
ADAM23	7.990363158	6.804231515	0.000988143	7.990363158	6.880869565	0.025151768	ECM_REGULATORS	1.174322646	1.161243224
ADAMTS12	8.879340351	8.015026999	0.005520197	8.879340351	8.016113043	0.01042488	ECM_REGULATORS	1.107836611	1.107686519
ADAMTS14	7.927517544	6.694489942	9.52E-06	7.927517544	5.380973913	3.94E-08	ECM_REGULATORS	1.184185444	1.473249577
ADAMTS15	9.476315789	7.768265369	4.68E-08	9.476315789	8.121178261	0.002199085	ECM_REGULATORS	1.219875395	1.166864645
ADAMTS17	8.175587719	6.483051256	5.60E-15	8.175587719	7.078534783	0.004868359	ECM_REGULATORS	1.261070967	1.154983054
ADAMTS20	2.683473684	1.750250412	0.002409239	2.683473684	0.429730435	8.21E-06	ECM_REGULATORS	1.533194145	6.244551158
ADAMTS7	10.60375439	8.052027565	4.14E-36	10.60375439	8.634178261	1.33E-08	ECM_REGULATORS	1.316904879	1.228113906
ADAMTSL2	8.75067193	8.187550441	0.014007598	8.75067193	7.361986957	3.78E-05	ECM_REGULATORS	1.068777773	1.1886291
AMBN	1.647994737	0.341967584	4.58E-23	1.647994737	0.070569565	0.000103876	ECM_GLYCOPROTEINS	4.819154839	23.35276874
AMELX	1.581361404	0.312183586	7.52E-26	1.581361404	0	0.000313026	ECM_GLYCOPROTEINS	5.065485424	Inf
AMH	6.18262807	4.842549482	3.08E-05	6.18262807	3.61996087	7.34E-08	SECRETED_FACTORS	1.276729973	1.707926769
ANGPTL6	4.477691228	3.967031074	0.016379767	4.477691228	2.269	7.88E-07	SECRETED_FACTORS	1.128726028	1.97342055
ARTN	6.427557895	5.505518121	0.001378862	6.427557895	5.172126087	0.000293303	SECRETED_FACTORS	1.167475568	1.242730318
ASTL	3.431582456	1.932187919	2.04E-13	3.431582456	2.129182609	0.001499684	ECM_REGULATORS	1.776008649	1.611690065
BDNF	6.504277193	5.220632148	4.13E-06	6.504277193	3.41316087	4.25E-11	SECRETED_FACTORS	1.245879236	1.905646245
BGN	14.20404211	13.2232426	0.000212393	14.20404211	12.8896	0.000106175	PROTEOGLYCANS	1.07417239	1.101976951
BMP1	11.57102982	10.63382365	1.65E-10	11.57102982	10.78095652	0.001204345	ECM_REGULATORS	1.088134447	1.073284156
BMP3	5.417921053	3.680793931	5.08E-05	5.417921053	4.091126087	0.038653378	SECRETED_FACTORS	1.471943595	1.324310456
BMP5	6.84017193	3.524598715	1.75E-16	6.84017193	0.718186957	7.69E-11	SECRETED_FACTORS	1.940695234	9.524221886
BMP7	10.94862632	8.013109166	3.51E-09	10.94862632	7.91606087	1.14E-06	SECRETED_FACTORS	1.366339343	1.383090213
C1QL1	7.730636842	5.886649377	5.44E-06	7.730636842	4.705247826	2.98E-09	ECM_AFFILIATED	1.313249074	1.642981864
C1QL2	2.239747368	1.613373394	0.042913158	2.239747368	0.330543478	3.32E-06	ECM_AFFILIATED	1.388238691	6.775953893
C1QL4	7.521966667	3.567848591	1.09E-26	7.521966667	2.624256522	2.87E-15	ECM_AFFILIATED	2.108263979	2.866322939
C1QTNF3	9.453675439	7.926686692	2.80E-09	9.453675439	8.301356522	0.002913023	ECM_AFFILIATED	1.192638968	1.138810918
C1QTNF6	10.25313509	9.389791841	2.69E-06	10.25313509	9.2978	0.001117695	ECM_AFFILIATED	1.091944876	1.102748509
CCL25	3.101917544	2.257443643	0.01395723	3.101917544	1.777291304	0.004020765	SECRETED_FACTORS	1.374084156	1.745306206
CCL7	3.455363158	2.299664669	2.56E-05	3.455363158	0.983704348	1.12E-07	SECRETED_FACTORS	1.502550874	3.51260332
CELA3A	1.789129825	0.54098906	3.31E-07	1.789129825	0.305256522	0.008552786	ECM_REGULATORS	3.307146032	5.861069943
CELA3B	1.03767193	0.521781812	0.014663176	1.03767193	0.277021739	0.044945948	ECM_REGULATORS	1.98870851	3.745814076
CILP2	9.80345614	6.318937459	4.40E-25	9.80345614	4.789313043	3.56E-21	ECM_GLYCOPROTEINS	1.551440603	2.046944113
CLEC18A	5.695898246	4.963214036	0.022607412	5.695898246	4.195034783	0.003358875	ECM_AFFILIATED	1.147622932	1.357771399
CLEC18B	5.856829825	4.468262128	0.000116954	5.856829825	3.29926087	1.66E-06	ECM_AFFILIATED	1.310762363	1.775194523
CLEC18C	4.153394737	3.441509923	0.044624202	4.153394737	2.504004348	0.004341649	ECM_AFFILIATED	1.206852466	1.658701088
CLEC4F	5.618907018	3.273690719	2.87E-21	5.618907018	4.591465217	0.005283449	ECM_AFFILIATED	1.716382976	1.223772097
COCH	8.167147368	6.465038523	3.32E-07	8.167147368	5.475704348	3.89E-09	ECM_GLYCOPROTEINS	1.263278995	1.491524533
COL11A1	9.379336842	7.404896405	9.85E-05	9.379336842	4.596656522	4.76E-08	COLLAGENS	1.266639846	2.040469371

COL11A2	10.02298947	5.967268255	1.40E-45	10.02298947	5.935082609	2.87E-11	COLLAGENS	1.679661286	1.688770003
COL13A1	8.551903509	6.36770464	1.59E-18	8.551903509	6.571269565	1.14E-05	COLLAGENS	1.343011963	1.301408111
COL19A1	3.872833333	2.56764302	1.84E-05	3.872833333	1.078930435	3.05E-05	COLLAGENS	1.508322342	3.58951162
COL1A1	16.86772982	14.7236684	1.25E-07	16.86772982	15.53188261	0.002901817	COLLAGENS	1.145620057	1.08600678
COL22A1	8.319963158	6.536482608	1.15E-06	8.319963158	6.779047826	0.021960001	COLLAGENS	1.272850194	1.22730557
COL23A1	9.58142807	6.574815896	9.54E-18	9.58142807	7.756191304	9.91E-06	COLLAGENS	1.457292222	1.235326424
COL24A1	7.054342105	5.321554832	9.83E-11	7.054342105	5.235378261	2.70E-05	COLLAGENS	1.325616728	1.347436948
COL25A1	8.235794737	3.874184458	7.71E-44	8.235794737	4.969104348	2.61E-09	COLLAGENS	2.125813788	1.65740024
COL26A1	11.21732281	4.779782704	2.37E-66	11.21732281	5.604513043	3.25E-22	COLLAGENS	2.346826938	2.001480364
COL2A1	11.63325263	4.132532848	7.36E-63	11.63325263	4.445930435	6.87E-16	COLLAGENS	2.815041782	2.616606985
COL4A1	14.07948246	13.18608188	0.000391508	14.07948246	13.23313913	0.00317155	BASEMENT_MEMBRANES	1.067753301	1.063956354
COL4A1	14.07948246	13.18608188	0.000391508	14.07948246	13.23313913	0.00317155	COLLAGENS	1.067753301	1.063956354
COL5A2	13.3406386	11.49619736	3.26E-10	13.3406386	11.48836957	3.66E-06	COLLAGENS	1.160439246	1.161229931
COL8A2	11.04227719	8.903040211	1.69E-14	11.04227719	8.581756522	2.01E-08	COLLAGENS	1.240281626	1.286715274
COL9A1	7.178663158	3.948480326	2.02E-17	7.178663158	3.733295652	1.60E-05	COLLAGENS	1.818082544	1.922875611
COL9A2	11.34673158	8.736522924	3.42E-20	11.34673158	9.057813043	1.14E-07	COLLAGENS	1.298769737	1.252701013
COL9A3	11.05883509	6.89508861	1.28E-35	11.05883509	6.691252174	2.99E-13	COLLAGENS	1.603871352	1.652730281
CRELD2	10.68861754	10.39259592	0.007323398	10.68861754	10.19903478	0.004449481	ECM_GLYCOPROTEINS	1.028483897	1.048002852
CRISPLD1	10.52219123	8.102431429	2.32E-15	10.52219123	9.166808696	6.60E-05	ECM_GLYCOPROTEINS	1.298646131	1.147857622
CRLF1	8.930954386	7.079522474	8.71E-11	8.930954386	6.027856522	1.71E-08	SECRETED_FACTORS	1.261519321	1.481613631
CSH1	0.664073684	0.235275101	0.000162124	0.664073684	0.033043478	0.032308489	SECRETED_FACTORS	2.822541282	20.09696676
CSH2	0.897173684	0.41880372	0.001273547	0.897173684	0.036713043	0.003079961	SECRETED_FACTORS	2.142229501	24.43746416
CSPG5	7.002987719	6.048453576	0.004957318	7.002987719	4.663552174	1.19E-11	ECM_AFFILIATED	1.157814577	1.501642409
CTHRC1	11.28251228	9.064828389	4.95E-11	11.28251228	7.590926087	3.38E-16	ECM_GLYCOPROTEINS	1.244647091	1.486315655
CTSV	8.884829825	7.380766347	1.59E-05	8.884829825	6.566747826	2.78E-09	ECM_REGULATORS	1.203781478	1.353003048
DSPP	0.88294386	0.554155829	0.013777276	0.88294386	0.315917391	0.022669162	ECM_GLYCOPROTEINS	1.593313312	2.794856769
EGFL6	9.561731579	5.883036999	6.34E-20	9.561731579	6.408521739	9.96E-08	SECRETED_FACTORS	1.625305362	1.492033884
EGFLAM	9.150650877	7.619756213	6.22E-11	9.150650877	8.22733913	0.013855457	ECM_GLYCOPROTEINS	1.200911239	1.112224831
EGLN2	11.92390526	11.42687881	1.80E-08	11.92390526	11.64072174	0.035876436	ECM_REGULATORS	1.043496257	1.024326973
ELN	13.04074386	10.03434578	1.89E-23	13.04074386	11.17933043	9.20E-05	ECM_GLYCOPROTEINS	1.299610771	1.166504912
ELSPBP1	1.233740351	0.462908466	2.56E-06	1.233740351	0.042082609	0.006816481	ECM_GLYCOPROTEINS	2.665192887	29.31710721
EMILIN3	9.947429825	4.921559415	4.16E-50	9.947429825	8.721282609	0.030799971	ECM_GLYCOPROTEINS	2.021194704	1.140592533
EPYC	5.2868	2.56212255	2.07E-13	5.2868	2.319434783	2.44E-05	PROTEOGLYCANS	2.063445404	2.279348417
ESM1	9.577270175	7.690784631	1.78E-08	9.577270175	5.764843478	8.25E-15	PROTEOGLYCANS	1.245291688	1.66132354
FAM20C	11.29262982	10.67574581	0.000592315	11.29262982	10.43004783	0.000712512	ECM_REGULATORS	1.057783693	1.082701634
FBLN2	12.08138596	10.23773861	2.47E-11	12.08138596	10.76645652	0.000334305	ECM_GLYCOPROTEINS	1.180083456	1.122132053
FBN2	12.5241614	7.167113298	7.04E-55	12.5241614	7.685291304	1.73E-20	ECM_GLYCOPROTEINS	1.747448503	1.629627415
FBN3	9.5832	4.220175139	8.44E-32	9.5832	5.403508696	1.70E-10	ECM_GLYCOPROTEINS	2.270806231	1.773514311
FGF11	9.166450877	7.669269674	2.94E-07	9.166450877	6.362547826	2.65E-10	SECRETED_FACTORS	1.195218224	1.440688719
FGF18	8.400885965	4.873462493	1.53E-31	8.400885965	6.553856522	3.83E-05	SECRETED_FACTORS	1.723802323	1.281823295
FGF21	1.462912281	0.77722977	0.011005119	1.462912281	0.037621739	0.000371925	SECRETED_FACTORS	1.882213391	38.88475957
FGF23	2.501312281	0.533258389	4.11E-36	2.501312281	0.319456522	9.54E-05	SECRETED_FACTORS	4.690619653	7.829898939
FGF3	1.104749123	0.435866779	0.000242216	1.104749123	0.113369565	0.001399844	SECRETED_FACTORS	2.534602721	9.744671074
FGF4	2.005589474	0.48730489	2.96E-14	2.005589474	0.084634783	0.000281819	SECRETED_FACTORS	4.115676891	23.69698854
FRAS1	10.52181754	8.388944219	1.09E-10	10.52181754	8.825286957	1.37E-05	ECM_GLYCOPROTEINS	1.254248123	1.192235176
FREM2	9.3833	6.670190038	3.07E-09	9.3833	8.082026087	0.008886599	ECM_AFFILIATED	1.406751524	1.161008378

GPC1	12.62100175	11.58144586	5.38E-07	12.62100175	11.00271739	1.38E-09	ECM_AFFILIATED	1.089760459	1.147080426
GPC2	9.43875614	5.553868993	3.30E-44	9.43875614	5.452595652	5.86E-23	ECM_AFFILIATED	1.699492039	1.731057416
GPC3	11.62242982	8.029928351	5.03E-21	11.62242982	8.608508696	1.32E-07	ECM_AFFILIATED	1.447388982	1.350109553
GPC4	11.39765789	9.928789367	4.73E-07	11.39765789	10.3643087	0.001642851	ECM_AFFILIATED	1.147940345	1.099702665
GPC5	3.718975439	2.905175628	0.015104549	3.718975439	1.530782609	2.83E-06	ECM_AFFILIATED	1.280120693	2.42946021
HAPLN1	7.911817544	5.245555877	2.62E-11	7.911817544	2.752743478	8.23E-14	PROTEOGLYCANS	1.508289632	2.87415722
HAPLN3	10.02856491	8.533685062	2.64E-10	10.02856491	8.978226087	0.001823549	PROTEOGLYCANS	1.175174012	1.116987344
HAPLN4	6.984492982	3.58996976	2.22E-25	6.984492982	5.753495652	0.014236955	PROTEOGLYCANS	1.945557609	1.21395642
HMCN1	9.692008772	8.672879108	0.000625867	9.692008772	8.312547826	8.52E-05	BASEMENT_MEMBRANES	1.117507652	1.165949234
HMCN1	9.692008772	8.672879108	0.000625867	9.692008772	8.312547826	8.52E-05	ECM_GLYCOPROTEINS	1.117507652	1.165949234
HYAL3	7.424075439	7.10865908	0.019266728	7.424075439	6.614234783	0.000597397	ECM_REGULATORS	1.044370725	1.122439055
IGFBP2	14.45163509	11.54559689	1.07E-20	14.45163509	12.29811739	2.81E-11	ECM_GLYCOPROTEINS	1.251700992	1.175109541
IGFBPL1	4.356285965	3.167931524	0.000169225	4.356285965	2.789078261	0.000420934	ECM_GLYCOPROTEINS	1.37511999	1.561908831
KAZALD1	10.26487018	7.396823854	8.09E-35	10.26487018	8.446686957	2.44E-05	ECM_REGULATORS	1.387740249	1.215254008
KCP	7.840698246	5.960061908	1.38E-09	7.840698246	5.01146087	3.90E-08	ECM_GLYCOPROTEINS	1.315539732	1.564553421
KERA	5.632940351	1.810448523	7.54E-45	5.632940351	3.165634783	0.001546419	PROTEOGLYCANS	3.111350739	1.779403102
LAMA1	9.717559649	7.358067872	1.05E-10	9.717559649	7.163873913	3.31E-07	ECM_GLYCOPROTEINS	1.320667303	1.356467153
LAMA1	9.717559649	7.358067872	1.05E-10	9.717559649	7.163873913	3.31E-07	BASEMENT_MEMBRANES	1.320667303	1.356467153
LAMB1	13.6392807	12.22537678	1.15E-10	13.6392807	12.82277391	0.000349834	ECM_GLYCOPROTEINS	1.115653198	1.063676299
LAMB1	13.6392807	12.22537678	1.15E-10	13.6392807	12.82277391	0.000349834	BASEMENT_MEMBRANES	1.115653198	1.063676299
LAMB4	3.924826316	3.03011628	0.000159716	3.924826316	2.650082609	0.003028	ECM_GLYCOPROTEINS	1.295272509	1.481020366
LAMB4	3.924826316	3.03011628	0.000159716	3.924826316	2.650082609	0.003028	BASEMENT_MEMBRANES	1.295272509	1.481020366
LAMC1	13.53805263	12.7946557	2.37E-05	13.53805263	13.0882	0.022559955	ECM_GLYCOPROTEINS	1.058102145	1.034370856
LAMC1	13.53805263	12.7946557	2.37E-05	13.53805263	13.0882	0.022559955	BASEMENT_MEMBRANES	1.058102145	1.034370856
LAMC3	10.18789123	7.775893365	1.37E-18	10.18789123	8.601456522	7.07E-05	ECM_GLYCOPROTEINS	1.310189164	1.184437915
LAMC3	10.18789123	7.775893365	1.37E-18	10.18789123	8.601456522	7.07E-05	BASEMENT_MEMBRANES	1.310189164	1.184437915
LGALS12	4.006689474	3.127613413	0.004685601	4.006689474	2.579469565	0.001226089	ECM_AFFILIATED	1.281069283	1.553299767
LGALS14	1.104980702	0.450484171	7.45E-06	1.104980702	0.179104348	0.008532951	ECM_AFFILIATED	2.452873539	6.169480055
LGALS7	4.074945614	2.677273567	0.001197882	4.074945614	1.202713043	3.91E-08	ECM_AFFILIATED	1.522050516	3.388127896
LGI1	4.974812281	2.0159821	4.91E-17	4.974812281	3.152165217	0.006082818	ECM_GLYCOPROTEINS	2.467686733	1.578220663
LOX	10.75694211	9.513439971	8.63E-06	10.75694211	9.47846087	2.99E-05	ECM_REGULATORS	1.130710042	1.134882789
LOXL1	11.15344561	9.224470422	1.46E-13	11.15344561	9.456017391	5.92E-08	ECM_REGULATORS	1.209115006	1.179507731
LOXL2	11.82927544	10.16137143	6.49E-13	11.82927544	9.781604348	2.60E-09	ECM_REGULATORS	1.164141624	1.209338981
LOXL3	9.574342105	7.837987862	5.29E-19	9.574342105	8.189065217	7.16E-08	ECM_REGULATORS	1.221530611	1.169161785
MATN3	7.748415789	6.481585858	1.78E-05	7.748415789	5.832856522	1.74E-05	ECM_GLYCOPROTEINS	1.195450613	1.328408433
MATN4	5.881617544	2.576361151	1.57E-44	5.881617544	1.969578261	2.01E-07	ECM_GLYCOPROTEINS	2.282916563	2.986231957
MFAP2	13.34495965	9.097937277	2.90E-32	13.34495965	10.9845	5.79E-10	ECM_GLYCOPROTEINS	1.466811569	1.21489004
MMP10	6.455108772	4.682603375	0.000240637	6.455108772	4.30173913	0.004234195	ECM_REGULATORS	1.378529902	1.500581178
MMP14	14.00286316	12.93796569	3.53E-06	14.00286316	13.44623913	0.021650972	ECM_REGULATORS	1.082307953	1.041396261
MMP9	10.79390351	9.363519549	0.000142026	10.79390351	6.786030435	8.31E-12	ECM_REGULATORS	1.152761358	1.59060641
MXRA5	11.79075614	11.03768365	0.025742054	11.79075614	10.25813913	0.000188782	ECM_GLYCOPROTEINS	1.068227403	1.149404974
NCAN	3.561282456	2.460639233	0.018678711	3.561282456	0.897195652	2.17E-06	PROTEOGLYCANS	1.447299713	3.969348767
NELL1	5.942403509	3.314288399	1.14E-09	5.942403509	4.485578261	0.029882264	ECM_GLYCOPROTEINS	1.792965124	1.324779808
NELL2	9.188915789	7.833896836	0.000163949	9.188915789	7.346891304	0.000493055	ECM_GLYCOPROTEINS	1.1729687	1.250721619
NID2	10.27370351	9.201504602	3.07E-05	10.27370351	9.310926087	0.030002765	BASEMENT_MEMBRANES	1.116524303	1.103402971
NID2	10.27370351	9.201504602	3.07E-05	10.27370351	9.310926087	0.030002765	ECM_GLYCOPROTEINS	1.116524303	1.103402971

NTN3	4.326480702	2.098858236	2.16E-24	4.326480702	2.4246	1.20E-05	BASEMENT_MEMBRANES	2.061349656	1.784410089
NTN3	4.326480702	2.098858236	2.16E-24	4.326480702	2.4246	1.20E-05	ECM_GLYCOPROTEINS	2.061349656	1.784410089
NTNG1	7.342021053	4.285669271	1.73E-14	7.342021053	5.066695652	3.65E-05	BASEMENT_MEMBRANES	1.71315624	1.449074813
NTNG1	7.342021053	4.285669271	1.73E-14	7.342021053	5.066695652	3.65E-05	ECM_GLYCOPROTEINS	1.71315624	1.449074813
OGFOD2	9.278614035	9.067047661	0.016410923	9.278614035	8.88106087	0.003678405	ECM_REGULATORS	1.023333546	1.044764153
OTOG	4.2852	1.285782167	3.26E-33	4.2852	0.231069565	5.16E-15	ECM_GLYCOPROTEINS	3.332757376	18.54506454
P4HA1	12.14595439	11.13278637	1.81E-14	12.14595439	10.88210435	1.78E-10	ECM_REGULATORS	1.091007587	1.116140224
P4HA2	11.13148246	10.70100803	0.023755406	11.13148246	10.62626957	0.040650546	ECM_REGULATORS	1.040227465	1.047543768
P4HA3	7.25905614	6.373507766	0.000558647	7.25905614	5.673213043	0.00019525	ECM_REGULATORS	1.138942072	1.279531737
PCOLCE	13.6178614	10.57201325	5.43E-38	13.6178614	12.19323478	0.000123535	ECM_GLYCOPROTEINS	1.288104837	1.116837463
PI3	7.125812281	5.938276826	0.049579035	7.125812281	2.92613913	1.17E-09	ECM_REGULATORS	1.199979807	2.435226749
PLOD1	13.87145088	12.51400308	5.48E-26	13.87145088	12.6600087	1.09E-09	ECM_REGULATORS	1.108474306	1.09569047
PLOD2	11.74594211	11.15689563	0.013752664	11.74594211	10.61473478	1.92E-06	ECM_REGULATORS	1.052796629	1.106569532
PLOD3	11.99037193	11.68737523	0.030293077	11.99037193	11.29513913	8.39E-06	ECM_REGULATORS	1.025925128	1.061551504
PLXNA1	12.25405439	11.51655832	1.33E-05	12.25405439	10.75556522	1.12E-13	ECM_AFFILIATED	1.064037887	1.139322215
PLXNA3	11.19935614	10.73462003	0.00138999	11.19935614	10.34557826	5.73E-07	ECM_AFFILIATED	1.043293206	1.082525873
PLXNA4	8.678084211	6.935316922	2.49E-07	8.678084211	7.595526087	0.010902067	ECM_AFFILIATED	1.251288774	1.142525759
PROL1	1.191154386	0.619904631	0.015733932	1.191154386	0.102834783	0.007288506	ECM_AFFILIATED	1.921512321	11.58318573
PXDN	12.92707018	11.25729699	4.13E-12	12.92707018	11.6447087	0.000939572	ECM_GLYCOPROTEINS	1.148328074	1.110123964
REG3G	1.877796491	0.956257526	0.001418898	1.877796491	0.569430435	0.012908459	ECM_AFFILIATED	1.963693293	3.297674969
RSPO2	4.289392982	2.671057814	7.78E-06	4.289392982	1.904308696	6.84E-05	ECM_GLYCOPROTEINS	1.605878001	2.252467256
RSPO4	7.816745614	4.17764836	1.47E-23	7.816745614	3.29873913	2.09E-12	ECM_GLYCOPROTEINS	1.871087497	2.369616179
SEMA3A	9.466963158	6.917994008	5.95E-17	9.466963158	7.314426087	1.91E-07	ECM_AFFILIATED	1.368454952	1.29428653
SEMA3F	11.55513684	10.61948173	0.000107924	11.55513684	10.24145652	1.65E-07	ECM_AFFILIATED	1.088107418	1.128270849
SEMA4F	9.490584211	8.666278073	1.28E-09	9.490584211	8.48786087	1.76E-06	ECM_AFFILIATED	1.095116511	1.118136166
SEMA4G	9.053933333	8.497229655	0.030194132	9.053933333	7.531878261	3.53E-08	ECM_AFFILIATED	1.065515904	1.202081741
SEMA5B	7.854226316	6.885354046	0.002202062	7.854226316	7.134808696	0.039862658	ECM_AFFILIATED	1.140714953	1.100832083
SEMA6A	10.98689649	9.584409012	1.22E-07	10.98689649	9.945443478	0.000425377	ECM_AFFILIATED	1.146330095	1.104716599
SEMA6C	10.98434386	8.359419559	9.78E-53	10.98434386	9.628904348	4.27E-05	ECM_AFFILIATED	1.314007962	1.140767782
SEMA7A	9.148052632	8.479781438	0.002508096	9.148052632	7.6902	3.26E-09	ECM_AFFILIATED	1.078807596	1.189572785
SERPINE2	11.35175965	10.73760217	0.047278163	11.35175965	10.41669565	0.00592546	ECM_REGULATORS	1.057196893	1.089765894
SERPINH1	14.72549649	12.68675741	8.49E-29	14.72549649	13.41794348	4.94E-08	ECM_REGULATORS	1.1606982	1.097448094
SLIT1	7.813319298	5.421693615	1.34E-09	7.813319298	4.235826087	1.39E-11	ECM_GLYCOPROTEINS	1.441121512	1.844579815
TECTA	6.280112281	5.16543001	6.75E-09	6.280112281	5.562973913	0.00132338	ECM_GLYCOPROTEINS	1.215796607	1.128912768
TGFBI	13.42976842	12.29033827	1.90E-05	13.42976842	11.8961	8.96E-05	ECM_GLYCOPROTEINS	1.092709421	1.128921951
THBS3	11.15468772	9.852980566	9.50E-22	11.15468772	10.62878261	0.020141688	ECM_GLYCOPROTEINS	1.132113034	1.049479336
TLL2	7.168792982	4.899537795	3.06E-21	7.168792982	5.41983913	7.05E-06	ECM_REGULATORS	1.463156992	1.32269479
TMPRSS15	3.112919298	0.988431333	4.66E-20	3.112919298	0.354991304	1.81E-06	ECM_REGULATORS	3.149353117	8.769001551
TNN	5.674526316	4.71568373	0.001548125	5.674526316	3.413686957	5.39E-05	ECM_GLYCOPROTEINS	1.203330554	1.662286668
VCAN	13.16881228	11.66940803	1.53E-06	13.16881228	11.1748087	7.96E-06	PROTEOGLYCANS	1.128490172	1.17843738
WIF1	8.586461404	3.310739837	1.73E-31	8.586461404	6.707052174	0.024231345	SECRETED_FACTORS	2.593517409	1.280213897
WNT1	1.009615789	0.69683278	0.015227243	1.009615789	0.480969565	0.038646589	SECRETED_FACTORS	1.448863799	2.099126145
WNT10A	8.242982456	5.956999712	4.61E-10	8.242982456	4.16966087	5.17E-12	SECRETED_FACTORS	1.383747332	1.976895175
WNT10B	5.61484386	4.228883337	5.53E-08	5.61484386	3.3326	1.49E-07	SECRETED_FACTORS	1.32773676	1.684823819
WNT11	9.542180702	5.989914305	1.25E-28	9.542180702	7.272926087	6.05E-09	SECRETED_FACTORS	1.593041272	1.31201398
WNT16	4.596542105	2.57407883	2.05E-15	4.596542105	2.654178261	0.001484397	SECRETED_FACTORS	1.785703705	1.731813636

<b>WNT3A</b>	3.784238596	2.81083373	0.005595722	3.784238596	2.221704348	0.000467444	SECRETED_FACTORS	1.346304677	1.703304312
<b>WNT6</b>	6.889745614	3.82567814	4.14E-27	6.889745614	5.785473913	0.002574769	SECRETED_FACTORS	1.800921395	1.190869705
<b>VWA5B1</b>	2.958445614	1.904118313	0.000372085	2.958445614	1.954904348	0.038024275	ECM_GLYCOPROTEINS	1.553708924	1.513345457
<b>VWCE</b>	8.284540351	5.819285762	4.78E-18	8.284540351	6.976134783	0.00098745	ECM_GLYCOPROTEINS	1.423635252	1.187554514
<b>ZP3</b>	8.238331579	7.794092627	0.024350326	8.238331579	7.57853913	0.008767957	ECM_GLYCOPROTEINS	1.056996879	1.087060638
<b>ZP4</b>	0.940426316	0.359800355	2.55E-05	0.940426316	0.032817391	0.001991142	ECM_GLYCOPROTEINS	2.613744826	28.65633978
<b>ZPLD1</b>	3.399714035	2.282818763	7.36E-05	3.399714035	1.582713043	0.000831966	ECM_GLYCOPROTEINS	1.489261474	2.148029328

**Supplemental Table 5. Matrisome signatures of different clusters**

Digestive cluster		Lung cluster		Brain cluster		Ovary-uterine cluster		Hepato-biliary		Kidney cluster	
Gene	Combined fold change	Gene	Combined fold change	Gene	Combined fold change	Gene	Combined fold change	Gene	Combined fold change	Gene	Combined fold change
CST4	5,816412831	CST4	10,37565221	TGM5	2,069935439	LRG1	14,55199482	TINAG	7,303781726	CTSD	1,073098482
FGF19	4,170582035	CSTL1	9,67495932	TIMP4	1,868066145	HAPLN1	8,545151079	REG1A	2,963340304	LAMA5	1,044841559
MMP8	3,443192746	FGF19	8,983472648	IGFBP1	1,791302152	ARTN	7,358526882	MUC13	1,859517497		
CSTL1	2,977192129	CST1	2,649905721	C1QL1	1,673409478	FGF3	6,527080327	TGM3	1,769397839		
CST1	2,691668639	SERPINB4	2,487778839	MASP1	1,585600468	AMH	4,684480489	CCL20	1,408857744		
CSF2	2,400425804	ANXA10	2,309582755	GPC2	1,482765269	CSTL1	4,00200292	VWA7	1,164017634		
COL10A1	2,26642653	ZPLD1	2,223979297	ADAMTS6	1,461700642	MMP11	3,578267027	ADAMTS10	1,1328242		
MMP3	1,946712885	EPYC	2,213715336	CRISPLD1	1,353343022	HYAL3	3,458728155	PLOD3	1,068117684		
WNT2	1,853459415	MMP13	2,182630583	SRPX	1,340578953	MFAP2	3,376239287				
CXCL5	1,646579182	IBSP	2,142987629	NTN1	1,335922689	MUC16	2,572531902				
MMP7	1,643331075	PRSS1	2,115572254	FGF11	1,27870529	RSPO4	2,452951258				
SERPINB5	1,623642153	MMP12	1,81380209	C1QTNF5	1,230127061	SEMA4D	2,33825582				
MMP10	1,604978635	PRSS2	1,800954007	LOXL3	1,22321027	IGFBP2	2,008653858				
CXCL3	1,58732163	MMP10	1,726364082	TNC	1,214685107	MUC1	1,785030875				
MMP1	1,534017938	COL11A1	1,715666136	EFEMP1	1,196853558	MUC5AC	1,723016725				
CCL20	1,532803253	CCL7	1,679685989	ANGPTL2	1,1946299	CILP2	1,69371656				
CXCL6	1,478013781	MMP1	1,637823764	ELN	1,183893823	LAMC2	1,660916509				
CXCL1	1,475853185	MMP8	1,580519716	VCAN	1,170901467	ANXA3	1,61296351				
ACAN	1,474337055	COL10A1	1,544116239	SPARC	1,170833154	SLPI	1,577217614				
CXCL8	1,378112685	CCL26	1,516960294	C1QTNF1	1,15460882	COL18A1	1,526954047				
CXCL11	1,338940378	CXCL13	1,507504294	MATN3	1,150622717	AGRN	1,50713923				
ADAMTS12	1,315657621	GREM1	1,453197639	ADAMTS9	1,144040309	LAMA5	1,500750601				
MMP11	1,3037066	COL17A1	1,451408238	MATN2	1,143677327	WNT10A	1,494924626				
ADAMTS14	1,244929158	WNT16	1,446531275	WNT5A	1,13240246	MMP15	1,425556411				
CTSV	1,236292597	MMP11	1,432887947	CTSO	1,096951535	MUC20	1,421945349				
F12	1,217448747	CILP2	1,403329906	CSF1	1,094019679	BMP3	1,388598037				
LAMC2	1,217208795	VWDE	1,370886463	ADAM17	1,067951971	SEMA3F	1,383351863				
PODNL1	1,188236036	CST2	1,360548433	A2M	1,065072484	KAZALD1	1,340811047				
ADAMTS2	1,165985642	COCH	1,356433261	PLXNA3	1,056452449	ST14	1,324738441				
MMP9	1,157404703	ADAMDEC1	1,3298259			PLXNB2	1,305198201				
COL12A1	1,142748876	CTHRC1	1,310976114			EMID1	1,259146668				
TGFB1	1,140801814	SPP1	1,284215089			MUC4	1,219212887				
COL1A1	1,137570347	WNT10B	1,272047636			ESM1	1,210342903				
LOXL2	1,122603336	COL24A1	1,251770579			HAPLN3	1,206810036				
COL5A2	1,120472117	PLXNB3	1,249061648			ZP3	1,199883988				
COL5A1	1,118609537	ADAM12	1,242060984			CXCL3	1,192168622				
COL1A2	1,086289128	ADAMTS14	1,235560638			LGALS9	1,178857422				
COL4A1	1,083935558	PODNL1	1,232095289			COL9A2	1,166568295				
PLOD3	1,083291096	WISP1	1,217175351			FRAS1	1,144805213				



SPON2	1,079291706	MMP9	1,20089387			LOXL1	1,131899739			
		EGLN3	1,19337969			CCL28	1,126049193			
		SRPX2	1,193212449			VWA1	1,124658555			
		P4HA3	1,192060312			NGLY1	1,097286299			
		MMP7	1,177534434			SEMA4F	1,022703035			
		WNT10A	1,176247712							
		FNDC1	1,175434386							
		ADAMTS12	1,17205896							
		LAMB3	1,170648769							
		LGI2	1,170625615							
		PLAU	1,166122499							
		WNT3	1,1661008							
		CILP	1,165217713							
		MFAP2	1,156085096							
		MUC20	1,155164452							
		POSTN	1,151044532							
		ADAM28	1,149478943							
		THBS2	1,148757589							
		SULF1	1,142460507							
		C1QTNF6	1,139152338							
		ADAMTSL5	1,135466866							
		SDC1	1,128634632							
		COL1A1	1,128165322							
		COL3A1	1,12672845							
		IGFBP3	1,115673357							
		SEMA4B	1,114755066							
		HTRA3	1,114275076							
		COL5A2	1,114219404							
		ST14	1,114143251							
		COL5A1	1,113021104							
		HAPLN3	1,111943061							
		CXCL10	1,105090921							
		MXRA5	1,095321392							
		PLOD2	1,094946491							
		WNT5B	1,092041069							
		TNC	1,087190617							
		LOXL1	1,082216238							
		HPSE	1,077400305							
		VCAN	1,07347391							
		P4HA1	1,070209738							
		COL1A2	1,070005472							
		CTSK	1,063231259							
		MMP14	1,063196306							
		SERPINH1	1,061475747							
		CRELD2	1,053657911							
		PLAT	1,051149615							

		CSTB	1,049679595								
		SEMA4C	1,048932589								
		LMAN1	1,02849176								
		AGRN	1,026383196								

Combined fold change is the average of total fold changes in each cohort. Each total fold change is the *per-gene* average of the fold change difference in the tumor of interest vs. respective healthy donors and rest of the Pan-Cancer cohort.















RARA::IGFBP4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RARA::LGALS8	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RARA::LOXL3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
RARA::SDC1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
RARA::SEMA3F	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RARA::SEMA4B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
RARA::SERPINE1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RARA::TGM2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
RARA::TNC	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RARA::WNT9A	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RARA::VWA1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
RARA::ZFP91	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RARB::COL13A1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RARB::COL8A1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RARB::CST2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RARB::ESM1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
RARB::FGF1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
RARB::LOXL1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RARB::MMRN2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RARB::PAMR1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RARB::SRPX	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RARB::WNT5A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
RARG::ADAMTSL5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
RARG::CST6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
RARG::CSTA	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
RARG::ELN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
RARG::LAMA5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
RARG::LGI4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RARG::LOXL1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0
RARG::LOXL3	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
RARG::MMP14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
RARG::PLXNA3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
RARG::PLXNB2	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RARG::PLXND1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
RARG::PODNL1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RARG::SDC1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RARG::SEMA3F	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RARG::SEMA4A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RARG::SERPINB8	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RARG::SPOCK1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RARG::ST14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
RARG::THBS3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
RARG::WNT5A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
RBPJ::LGALS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
RBPJ::LGI2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
RBPJ::NELL2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0











SREBF2::PLXNB2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
SRF::ANGPT2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STAT5A::A2M	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STAT5A::BMP4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
STAT5A::C1QTNF1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STAT5A::C1QTNF5	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STAT5A::CCL22	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STAT5A::CCL5	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STAT5A::CLEC4A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
STAT5A::COL8A2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STAT5A::CXCL11	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
STAT5A::CXCL6	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STAT5A::FGL2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
STAT5A::HAPLN3	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
STAT5A::HPSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STAT5A::HTRA4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STAT5A::LOXL3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STAT5A::MMP14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STAT5A::MMP28	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STAT5A::NTNG2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STAT5A::OGFOD2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STAT5A::SERPING1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TAL1::ADAMTS7	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
TAL1::ANGPT2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
TAL1::C1QTNF5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TAL1::COL4A1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
TAL1::EGFL7	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
TAL1::FN1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TAL1::HPSE	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TAL1::PLXDC1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TBX1::CLEC11A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TBX1::CSPG4	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TBX1::MFAP2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TBX1::NTNG2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TBX1::SDC1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TBX15::ADAMTS6	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TBX15::C1QTNF3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TBX15::HAPLN1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
TBX19::ADAMTS10	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TBX19::CBLN3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TBX19::PLXNA3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TBX2::C1QTNF5	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TBX2::PLXDC1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
TBX2::SEMA4C	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TBX21::CXCL9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
TBX21::FASLG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0

















<b>ZSCAN16::LAMC2</b>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>ZSCAN16::SEMA3F</b>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>ZSCAN16::ST14</b>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>ZSCAN16::VWCE</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Numbers in the table report whether a module is active (1) or not (0) in any given tumor type. Modules are named as TF::matrixome target.



**Supplemental Table 7. Prognostic matrisome modules**

<b>Tumor</b>	<b>Transcription factor</b>	<b>Matrisome gene target</b>	<b>P value</b>	<b>Better prognosis</b>	<b>Worse prognosis</b>
ACC	TCF3	SERPINH1	5.28988E-06	module-low	module-high
ACC	TCF7L2	ADAMTS7	3.07808E-05	module-low	module-high
ACC	SMAD3	NTNG2	0.000135261	module-low	module-high
ACC	ZBTB49	ADAMTS7	0.000294777	module-low	module-high
ACC	SMAD3	SEMA7A	0.000501965	module-low	module-high
ACC	TBX1	NTNG2	0.000531329	module-low	module-high
ACC	TCF3	COL15A1	0.00123809	module-low	module-high
ACC	RARB	MMRN2	0.00263679	module-high	module-low
ACC	SOX8	WNT11	0.014516513	module-low	module-high
ACC	ZNF35	TNXB	0.03487466	module-low	module-high
ACC	ZNF143	COL15A1	0.045534996	module-low	module-high
BLCA	NR2F6	OGFOD2	0.001649254	module-high	module-low
BLCA	NR2F6	PLXNB2	0.004526848	module-high	module-low
BLCA	NR2F6	ST14	0.002371232	module-high	module-low
BLCA	NR6A1	BGLAP	0.048204052	module-high	module-low
BLCA	PPARG	ADAMTS7	0.000545996	module-high	module-low
BLCA	PPARG	IGFBP3	0.006882439	module-high	module-low
BLCA	PPARG	TINAGL1	0.008805562	module-high	module-low
BLCA	PRRX1	FBN2	0.035846959	module-low	module-high
BLCA	PRRX1	MMP14	0.019172173	module-low	module-high
BLCA	RARG	PLXNB2	0.021044962	module-high	module-low
BLCA	RFX7	PLXNB1	0.0277367	module-high	module-low
BLCA	RUNX2	FBN2	0.025574572	module-low	module-high
BLCA	SMAD3	IGFBP3	0.041645963	module-high	module-low
BLCA	TBX1	SDC1	0.018132999	module-high	module-low
BLCA	TCF3	PLXNB1	0.010507094	module-high	module-low
BLCA	TEAD4	ADAM15	0.037885549	module-low	module-high
BLCA	TEAD4	PLAU	0.024111034	module-low	module-high
BLCA	TFAP4	GPC2	0.023439704	module-high	module-low
BLCA	ZNF691	BGLAP	0.016859878	module-high	module-low
BLCA	ZSCAN16	SEMA3F	2.08E-05	module-high	module-low
BLCA	ZSCAN16	ST14	0.000714791	module-high	module-low
BRCA	NR2F2	LRG1	0.001160383	module-high	module-low
BRCA	PRDM1	CLEC2D	0.01246197	module-high	module-low
BRCA	RARA	CHRD	0.019458371	module-high	module-low
BRCA	RARA	SEMA3F	0.001561244	module-high	module-low
BRCA	RFX1	CILP2	0.001738291	module-high	module-low
BRCA	RFX1	MMP17	0.046825623	module-high	module-low

<b>BRCA</b>	RREB1	LRG1	0.007878654	module-high	module-low
<b>BRCA</b>	RXRA	SEMA3F	0.049877246	module-high	module-low
<b>BRCA</b>	SP1	NELL2	0.017276383	module-high	module-low
<b>BRCA</b>	SREBF1	MUC1	0.00278415	module-high	module-low
<b>BRCA</b>	TEAD1	LOXL2	0.015085869	module-low	module-high
<b>BRCA</b>	TFAP2A	MUC1	0.005754719	module-high	module-low
<b>BRCA</b>	USF1	SEMA4A	0.014215827	module-high	module-low
<b>BRCA</b>	XBP1	ANXA9	0.003624732	module-high	module-low
<b>BRCA</b>	XBP1	CHRD	0.007690921	module-high	module-low
<b>BRCA</b>	XBP1	LRG1	0.001319192	module-high	module-low
<b>BRCA</b>	XBP1	MFAP2	0.017658529	module-high	module-low
<b>BRCA</b>	XBP1	SERPINH1	0.044552714	module-high	module-low
<b>BRCA</b>	ZBTB7A	MMP17	0.027785497	module-high	module-low
<b>BRCA</b>	ZBTB7B	LRG1	0.000183295	module-high	module-low
<b>BRCA</b>	ZBTB7B	MUC1	0.014483349	module-high	module-low
<b>BRCA</b>	ZEB1	ST14	0.01551516	module-low	module-high
<b>BRCA</b>	ZNF219	LOXL1	0.006749677	module-high	module-low
<b>BRCA</b>	ZNF281	SEMA3F	0.007312899	module-high	module-low
<b>BRCA</b>	ZNF628	EGLN2	0.01232958	module-high	module-low
<b>BRCA</b>	ZNF652	NPNT	0.001214069	module-high	module-low
<b>BRCA</b>	ZNF75A	NELL2	0.035412353	module-high	module-low
<b>CECSC</b>	BACH1	CXCL8	0.003311276	module-low	module-high
<b>CECSC</b>	NFE2	CXCL1	0.027222979	module-low	module-high
<b>CECSC</b>	RFX2	PLXNB1	0.046491876	module-high	module-low
<b>CECSC</b>	SOX2	HPSE	0.015019977	module-high	module-low
<b>CECSC</b>	STAT5A	CCL22	0.048813656	module-high	module-low
<b>CECSC</b>	TEAD1	LAMC2	0.014089816	module-low	module-high
<b>CECSC</b>	ZNF219	PODNL1	0.011662186	module-low	module-high
<b>COAD</b>	RELA	C1QTNF1	0.003342958	module-low	module-high
<b>COAD</b>	RFX3	ADAMTS6	0.027789537	module-low	module-high
<b>COAD</b>	ZEB1	COL6A3	0.042602017	module-low	module-high
<b>COAD</b>	ZNF713	ADAMTS6	0.028415083	module-low	module-high
<b>GBM</b>	VDR	CSF1	0.012676998	module-low	module-high
<b>GBM</b>	VDR	F13A1	0.040482665	module-low	module-high
<b>GBM</b>	ZNF281	EFEMP2	0.024230538	module-low	module-high
<b>HNSC</b>	RARA	SERPINE1	0.035066904	module-low	module-high
<b>HNSC</b>	RUNX2	SEMA3C	0.029994943	module-low	module-high
<b>HNSC</b>	SOX18	PAPLN	0.02213199	module-high	module-low
<b>HNSC</b>	SP3	COL8A2	0.025686302	module-high	module-low
<b>HNSC</b>	STAT5A	CCL5	0.007139558	module-high	module-low
<b>HNSC</b>	STAT5A	COL8A2	0.001784191	module-high	module-low
<b>HNSC</b>	STAT5A	HAPLN3	0.018176652	module-high	module-low
<b>HNSC</b>	STAT5A	MMP28	0.038219845	module-high	module-low
<b>HNSC</b>	VDR	TINAGL1	0.013020321	module-low	module-high

<b>HNSC</b>	ZEB1	MMP19	0.028886024	module-high	module-low
<b>KICH</b>	TFEB	EGLN2	0.00789214	module-high	module-low
<b>KICH</b>	ZBTB7A	LAMA5	0.012130945	module-high	module-low
<b>KICH</b>	ZNF219	OGFOD2	0.028149292	module-high	module-low
<b>KICH</b>	ZNF219	EGLN2	0.006278103	module-high	module-low
<b>KIRC</b>	ATF3	CXCL2	0.005604564	module-low	module-high
<b>KIRC</b>	NFKB2	EBI3	0.002623082	module-low	module-high
<b>KIRC</b>	NFKB2	P4HA1	0.046885302	module-low	module-high
<b>KIRC</b>	PAX2	CX3CL1	0.002931256	module-high	module-low
<b>KIRC</b>	POU2F1	LGALS8	0.01888582	module-low	module-high
<b>KIRC</b>	POU3F1	CSF1	0.03447886	module-low	module-high
<b>KIRC</b>	RARG	LGI4	0.002039085	module-low	module-high
<b>KIRC</b>	RELA	SERPINE1	0.000318604	module-low	module-high
<b>KIRC</b>	RFX1	LAMA5	0.008127486	module-low	module-high
<b>KIRC</b>	RORA	HMCN1	8.86E-06	module-high	module-low
<b>KIRC</b>	RORA	P4HA2	0.045830965	module-high	module-low
<b>KIRC</b>	RUNX1	ANXA5	1.17E-06	module-low	module-high
<b>KIRC</b>	RUNX1	LAMA4	0.003931839	module-low	module-high
<b>KIRC</b>	RUNX1	VCAN	0.000227449	module-low	module-high
<b>KIRC</b>	SP1	CSF1	0.004572017	module-low	module-high
<b>KIRC</b>	SP1	MUC3A	0.009720805	module-low	module-high
<b>KIRC</b>	STAT5A	SERPING1	0.002767937	module-low	module-high
<b>KIRC</b>	TBX19	ADAMTS10	0.009062649	module-low	module-high
<b>KIRC</b>	TBX19	CBLN3	0.000376126	module-low	module-high
<b>KIRC</b>	TCF4	A2M	0.012738597	module-high	module-low
<b>KIRC</b>	TCF4	CLEC14A	0.022825311	module-high	module-low
<b>KIRC</b>	TCF4	HSPG2	0.003139282	module-high	module-low
<b>KIRC</b>	TEAD3	CSF1	1.06E-08	module-low	module-high
<b>KIRC</b>	TEAD4	SERPINE1	0.000111154	module-low	module-high
<b>KIRC</b>	TFAP4	ADAMTSL4	2.06E-05	module-low	module-high
<b>KIRC</b>	TFAP4	LOXL2	0.010515427	module-low	module-high
<b>KIRC</b>	TFAP4	PLOD1	0.001027241	module-low	module-high
<b>KIRC</b>	ZFX	PLXNA2	0.001397604	module-high	module-low
<b>KIRP</b>	PAX2	CX3CL1	0.006707384	module-high	module-low
<b>KIRP</b>	POU3F3	CX3CL1	0.030862625	module-high	module-low
<b>KIRP</b>	SP1	PAPLN	0.028037801	module-high	module-low
<b>KIRP</b>	STAT5A	HTRA4	0.009502427	module-high	module-low
<b>LAML</b>	RREB1	NTNG2	0.015116527	module-high	module-low
<b>LAML</b>	RUNX2	SERPINB8	0.022606921	module-high	module-low
<b>LAML</b>	RXRA	SEMA4A	0.045547267	module-low	module-high
<b>LAML</b>	SP3	ZFP91	0.034682139	module-high	module-low
<b>LAML</b>	TBX1	CLEC11A	0.00045927	module-high	module-low
<b>LAML</b>	TEAD4	VWCE	0.023116405	module-high	module-low
<b>LAML</b>	ZEB1	NTNG2	0.048046253	module-high	module-low

<b>LAML</b>	ZNF713	CRLF3	0.020548102	module-high	module-low
<b>LGG</b>	BACH1	A2M	0.015715357	module-low	module-high
<b>LGG</b>	NFKB1	LTBP3	0.029222746	module-low	module-high
<b>LGG</b>	NR3C1	FGF2	0.026140605	module-high	module-low
<b>LGG</b>	NR3C1	VCAN	0.000349736	module-high	module-low
<b>LGG</b>	PAX6	MASP1	0.03847823	module-high	module-low
<b>LGG</b>	REST	LOXL3	9.91E-09	module-low	module-high
<b>LGG</b>	REST	TNC	1.01E-07	module-low	module-high
<b>LGG</b>	REST	WNT5A	1.94E-05	module-low	module-high
<b>LGG</b>	RFX1	LTBP3	0.012040946	module-low	module-high
<b>LGG</b>	RFX5	ADAMTS6	0.011068769	module-high	module-low
<b>LGG</b>	RUNX1	A2M	0.000141338	module-low	module-high
<b>LGG</b>	RUNX1	CSF1	8.31E-05	module-low	module-high
<b>LGG</b>	RUNX1	NTN1	0.002190275	module-low	module-high
<b>LGG</b>	SOX2	SMOC1	1.93E-05	module-high	module-low
<b>LGG</b>	STAT5A	A2M	0.000381721	module-low	module-high
<b>LGG</b>	STAT5A	LOXL3	7.51E-05	module-low	module-high
<b>LGG</b>	TCF12	ADAMTS6	0.001553505	module-high	module-low
<b>LGG</b>	TCF12	BMP2	3.90E-08	module-high	module-low
<b>LGG</b>	TCF12	VCAN	7.78E-06	module-high	module-low
<b>LGG</b>	TFAP4	ANGPTL2	3.04E-09	module-high	module-low
<b>LGG</b>	TFAP4	PODN	0.00295398	module-high	module-low
<b>LGG</b>	VAX2	C1QL1	2.01E-05	module-high	module-low
<b>LGG</b>	VAX2	GPC2	0.012321136	module-high	module-low
<b>LGG</b>	ZNF652	C1QTNF5	0.000131345	module-high	module-low
<b>LGG</b>	ZNF713	ADAMTS6	0.044244092	module-high	module-low
<b>LGG</b>	ZNF784	LTBP3	0.032087461	module-low	module-high
<b>LUAD</b>	NFAT5	CLEC2D	0.019561203	module-high	module-low
<b>LUAD</b>	NR2F6	KAZALD1	0.018775607	module-low	module-high
<b>LUAD</b>	PITX1	ANXA10	0.015047999	module-low	module-high
<b>LUAD</b>	PLAG1	CRLF1	0.020508454	module-low	module-high
<b>LUAD</b>	PPARA	PAPLN	0.012858276	module-low	module-high
<b>LUAD</b>	PRRX2	PODNL1	0.024020211	module-high	module-low
<b>LUAD</b>	RARA	ANGPTL4	0.012594531	module-low	module-high
<b>LUAD</b>	RARA	SDC1	0.032133692	module-high	module-low
<b>LUAD</b>	RARA	VWA1	0.019394745	module-high	module-low
<b>LUAD</b>	RELA	HPSE	0.004126654	module-low	module-high
<b>LUAD</b>	SP3	HPSE	0.009479946	module-low	module-high
<b>LUAD</b>	STAT5A	HAPLN3	0.031420021	module-low	module-high
<b>LUAD</b>	TBX19	CBLN3	0.028934965	module-high	module-low
<b>LUAD</b>	TBX19	PLXNA3	0.014336801	module-high	module-low
<b>LUAD</b>	TFAP2A	ADAMTSL5	0.001157149	module-low	module-high
<b>LUAD</b>	TFAP2A	SEMA4B	4.56E-05	module-low	module-high
<b>LUAD</b>	VDR	COL24A1	0.015345863	module-high	module-low

<b>LUAD</b>	ZIC2	ADAMTSL5	0.002412552	module-low	module-high
<b>LUSC</b>	PGR	VCAN	0.022504219	module-low	module-high
<b>LUSC</b>	POU6F2	ADAMTS17	0.035313357	module-high	module-low
<b>LUSC</b>	POU6F2	NELL2	0.028833279	module-high	module-low
<b>LUSC</b>	RORA	CD109	0.037308447	module-high	module-low
<b>LUSC</b>	TCF3	GPC2	0.047962331	module-high	module-low
<b>LUSC</b>	TEAD3	ADAMTS17	0.000565815	module-high	module-low
<b>LUSC</b>	TFAP2A	GREM1	0.038672636	module-low	module-high
<b>LUSC</b>	TFAP2C	WNT5A	0.014194057	module-high	module-low
<b>LUSC</b>	VAX2	ADAMTS17	0.027206135	module-high	module-low
<b>LUSC</b>	ZIC3	LAMA1	0.018094127	module-high	module-low
<b>MESO</b>	NR2F6	SERPINH1	1.86E-05	module-low	module-high
<b>MESO</b>	SNAI2	COL15A1	7.26E-05	module-low	module-high
<b>MESO</b>	NR2F1	CXCL6	0.00011213	module-high	module-low
<b>MESO</b>	ZNF219	ANXA11	0.001054055	module-high	module-low
<b>MESO</b>	RARG	LOXL1	0.001107784	module-low	module-high
<b>MESO</b>	VAX2	MMP14	0.001766403	module-low	module-high
<b>MESO</b>	VAX2	EFEMP2	0.007231699	module-low	module-high
<b>MESO</b>	WT1	FMOD	0.010194241	module-high	module-low
<b>MESO</b>	WT1	SULF1	0.012273306	module-high	module-low
<b>MESO</b>	XBP1	CCL2	0.014433129	module-high	module-low
<b>MESO</b>	PDX1	COL11A2	0.015279822	module-low	module-high
<b>MESO</b>	SP4	NID2	0.015342693	module-low	module-high
<b>MESO</b>	PBX1	LAMA4	0.018139411	module-high	module-low
<b>MESO</b>	NFIB	EGFLAM	0.020564475	module-low	module-high
<b>MESO</b>	OSR1	SEMA5A	0.035720984	module-low	module-high
<b>PAAD</b>	NFAT5	LAMA3	0.001192108	module-low	module-high
<b>PAAD</b>	NKX2-8	EREG	0.02226153	module-low	module-high
<b>PAAD</b>	SMAD3	PRSS12	0.007529121	module-low	module-high
<b>PAAD</b>	TEAD3	MMP3	0.002817375	module-low	module-high
<b>PRAD</b>	NR2F6	BGLAP	0.037671358	module-low	module-high
<b>PRAD</b>	REST	IMPG1	0.021579481	module-low	module-high
<b>SARC</b>	NFKB2	HAPLN3	0.020259306	module-high	module-low
<b>SARC</b>	NKX6-1	LOXL2	0.00217866	module-low	module-high
<b>SARC</b>	NR2F6	SERPINH1	0.015464811	module-low	module-high
<b>SARC</b>	POU3F3	PXDN	0.025713805	module-low	module-high
<b>SARC</b>	REST	FBN2	0.002778349	module-low	module-high
<b>SARC</b>	RORA	PXDN	0.00232826	module-low	module-high
<b>SARC</b>	SOX17	LAMA4	0.036000281	module-high	module-low
<b>SARC</b>	TCF3	MFAP2	0.007394702	module-low	module-high
<b>STAD</b>	POU2F2	NTNG2	0.028992554	module-low	module-high
<b>STAD</b>	RARA	HTRA3	0.036741491	module-low	module-high
<b>STAD</b>	RORA	SRPX2	0.00152623	module-low	module-high
<b>STAD</b>	RREB1	PLXNB2	0.037169493	module-high	module-low

<b>STAD</b>	SNAI2	LOX	0.002392283	module-low	module-high
<b>STAD</b>	TAL1	ADAMTS7	0.010536732	module-low	module-high
<b>STAD</b>	TAL1	ANGPT2	0.001790626	module-low	module-high
<b>STAD</b>	TCF21	AGT	0.03075979	module-low	module-high
<b>STAD</b>	TCF3	SEMA4D	0.01999062	module-high	module-low
<b>STAD</b>	TCF4	COL15A1	0.024149113	module-low	module-high
<b>STAD</b>	TEAD1	HSPG2	0.030284765	module-low	module-high
<b>STAD</b>	TEAD4	SERPINE1	0.01340268	module-low	module-high
<b>STAD</b>	ZBTB7B	SDC1	0.036447193	module-high	module-low
<b>STAD</b>	ZEB1	IGFBP7	0.000154535	module-low	module-high
<b>STAD</b>	ZEB1	THBS1	0.004867948	module-low	module-high
<b>STAD</b>	ZNF143	OGFOD1	0.009753086	module-low	module-high
<b>STAD</b>	ZNF713	ADAMTS6	0.003522014	module-low	module-high
<b>THCA</b>	POU2F3	VWA5A	0.013279907	module-high	module-low
<b>THCA</b>	PRDM1	ADAMTS9	0.006701597	module-high	module-low
<b>THCA</b>	PRDM1	FGF1	0.034147628	module-high	module-low
<b>THCA</b>	RARG	CST6	0.042919101	module-high	module-low
<b>THCA</b>	REST	PLXNC1	0.034150661	module-high	module-low
<b>THCA</b>	TCF4	COL15A1	0.013687991	module-low	module-high
<b>THCA</b>	TFAP2C	ANXA1	0.041003381	module-high	module-low
<b>THCA</b>	TFAP2C	COL8A2	0.036689361	module-high	module-low
<b>THCA</b>	ZNF143	NELL2	0.013923797	module-high	module-low
<b>UCEC</b>	NR2F6	CILP2	0.000884206	module-low	module-high
<b>UCEC</b>	ZBTB7A	PRSS1	0.002737465	module-low	module-high
<b>UCEC</b>	ZBTB7B	ESM1	0.003827208	module-low	module-high
<b>UCS</b>	RARA	CCL7	0.010641011	module-high	module-low
<b>UCS</b>	TCF7L1	ADAMTS17	0.022391296	module-high	module-low

*P* values are calculated for univariate survival curves (Kaplan-Meier, Log-rank test). Patients in each cohort are divided at the average expression of the module (average of TF and target expression values) into module-high and -low group (above and below the average module activity, respectively) and compared. Association of a group with better (longer overall survival) or worse (shorter overall survival) prognosis is reported.

**Supplemental Table 8. Drivers of matrisome modules**

Driver	ACC	BLCA	BRCA	CESC	CHOL	COAD	ESCA	GBM	HNSC	KICH	KIRC	KIRP	LAML	LGG	LIHC	LUAD	LUSC	MESO	PAAD	PCPG	PRAD	READ	SARC	STAD	TGCT	THCA	UCEC	UCS	In tumors	N tot int	N avg int
EP300	9	25	33	34	4	6	10	15	54	6	30	18	16	14	2	24	20	9	3	8	15	6	8	23	10	23	16	6	28	447	15.964
TP53	10	19	32	22	3	14	18	18	28	16	20	10	14	12	0	24	34	12	2	12	18	6	8	22	3	21	16	4	27	418	14.929
CREBBP	7	18	17	10	3	6	8	15	19	5	21	12	16	9	0	13	8	7	0	9	8	3	6	13	8	17	6	3	26	267	9.536
NCOR1	4	21	12	11	5	3	4	12	11	4	13	9	6	13	0	8	11	5	0	8	7	5	3	7	4	16	6	4	26	212	7.571
RB1	3	17	14	10	2	0	4	16	10	3	9	11	9	0	0	6	28	0	0	3	7	2	4	7	0	10	12	0	21	187	6.679
SMARCA4	3	8	9	7	0	4	9	7	12	4	13	11	7	11	2	10	7	4	0	6	4	5	5	6	5	7	2	0	25	168	6.000
ARID1A	8	10	5	12	2	8	10	6	7	4	11	2	0	6	0	5	14	0	2	7	5	6	0	10	0	7	4	10	23	161	5.750
CTNNB1	6	12	10	9	0	0	6	3	8	3	8	7	3	5	0	6	8	4	0	2	0	3	0	9	3	10	8	3	22	136	4.857
SMAD4	3	11	7	5	2	4	6	0	10	3	6	8	0	5	0	6	0	4	2	0	0	4	0	12	0	14	3	0	19	115	4.107
NSD1	2	12	8	0	2	0	0	6	10	2	8	0	4	0	0	9	0	5	0	3	10	0	3	5	4	7	2	3	19	105	3.750
NOTCH1	3	6	6	6	2	0	6	3	10	3	6	0	0	20	0	6	4	4	0	0	0	2	0	5	0	10	0	0	17	102	3.643
FBXW7	0	4	0	0	2	0	6	3	20	0	4	3	5	4	0	0	14	0	0	2	0	0	2	0	0	3	6	0	14	78	2.786
BRCA2	2	5	0	6	0	3	4	0	8	0	5	12	0	3	0	4	0	0	0	0	3	4	0	5	0	7	0	0	14	71	2.536
BCOR	3	4	5	0	0	0	0	3	0	3	5	9	4	0	0	0	5	0	0	2	4	0	0	0	0	4	6	0	13	57	2.036
GATA3	2	0	4	3	0	0	5	0	5	0	7	7	0	0	0	0	0	0	0	2	0	2	0	0	0	3	0	0	10	40	1.429
CHD4	0	0	5	3	0	0	4	4	0	5	8	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	9	36	1.286
EGFR	0	4	0	0	0	0	0	4	4	2	0	4	0	8	0	6	0	0	0	2	0	2	0	0	0	0	0	0	9	36	1.286
CDKN2A	0	0	0	0	2	0	0	3	8	0	6	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	6	30	1.071
PIK3CA	2	3	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	6	0	3	0	0	7	24	0.857
ATM	0	0	5	0	2	0	0	0	0	0	4	0	0	0	0	6	0	0	0	3	3	0	0	0	0	0	0	0	6	23	0.821
NFE2L2	0	0	0	3	0	0	0	0	6	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	8	0	5	22	0.786
RUNX1	0	0	13	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	21	0.750
VHL	0	0	0	0	0	0	0	0	0	0	8	7	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3	18	0.643
RXRA	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17	0.607
CHD8	3	3	0	4	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4	0	0	5	16	0.571
SETD2	2	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	4	11	0.393
USP9X	2	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	4	11	0.393
APC	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	2	11	0.393
KLF5	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11	0.393
KMT2A	0	0	0	0	0	0	0	3	0	0	4	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	10	0.357
ARID2	2	4	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	8	0.286
KMT2B	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	8	0.286
TLR4	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	8	0.286
KEAP1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	2	8	0.286
CDKN1A	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	0.250
MEN1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	0.250
AJUBA	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0.143
SIN3A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	1	4	0.143
CTCF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	1	3	0.107
KANSL1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0.107
<b>N drivers/tumor</b>	<b>22</b>	<b>26</b>	<b>17</b>	<b>18</b>	<b>12</b>	<b>8</b>	<b>15</b>	<b>16</b>	<b>18</b>	<b>15</b>	<b>20</b>	<b>17</b>	<b>11</b>	<b>14</b>	<b>4</b>	<b>15</b>	<b>13</b>	<b>10</b>	<b>4</b>	<b>14</b>	<b>11</b>	<b>14</b>	<b>8</b>	<b>13</b>	<b>7</b>	<b>23</b>	<b>15</b>	<b>8</b>			
<b>N tum int</b>	<b>87</b>	<b>236</b>	<b>190</b>	<b>155</b>	<b>31</b>	<b>48</b>	<b>104</b>	<b>121</b>	<b>234</b>	<b>65</b>	<b>196</b>	<b>139</b>	<b>92</b>	<b>116</b>	<b>8</b>	<b>137</b>	<b>163</b>	<b>57</b>	<b>9</b>	<b>69</b>	<b>84</b>	<b>52</b>	<b>39</b>	<b>130</b>	<b>37</b>	<b>185</b>	<b>102</b>	<b>35</b>			

Drivers identified in the study and number of TF they interact with in any given cancer. The table also reports the following Pan-Cancer and tumor specific analyses (bold red): number of tumors in which the driver is active ("In tumors"); total number of TFs regulated by the driver Pan-Cancer ("N tot int"); average number of TFs regulated by the driver Pan-Cancer ("N avg int"); number of active drivers in any tumor ("N drivers/tumor"); number of TFs regulated by the driver in any given cancer ("N tum int").



**Supplemental Table 9. KEGG Pathways enrichment of matrisome regulators (drivers + TFs)**

Pathway	ACC	BLCA	BRCA	CESC	CHOL	COAD	ESCA	GBM	HNSC	KICH	KIRC	KIRP	LAML	LGG	LUAD	LUSC	MESO	PAAD	PCPG	PRAD	READ	SARC	STAD	TGCT	THCA	UCEC	UCS	In tumors	
Adherens junction	12.28	10.90	10.33	11.51	9.85	11.80	14.40	14.29	17.19	12.86	17.06	12.56	11.10	15.41	14.94	13.65	12.19	11.70	11.58	11.07	12.75	6.02	13.34	11.27	7.92	15.61	12.83	<b>27</b>	
Cell cycle	15.93	17.26	13.36	15.06	21.46	15.38	14.40	17.18	13.68	16.63	16.61	13.03	11.42	15.51	14.94	11.16	15.98	9.76	18.02	17.52	13.24	10.89	13.28	9.00	13.89	12.76	4.86	<b>27</b>	
FoxO signaling pathway	9.88	14.24	7.95	11.94	14.31	12.28	11.52	11.28	10.97	13.42	10.80	7.31	11.42	9.56	14.94	8.50	6.92	9.76	14.99	11.32	10.37	4.57	7.83	4.00	8.46	4.34	4.86	<b>27</b>	
MicroRNAs in cancer	15.08	22.06	14.92	22.96	23.67	20.82	19.10	18.92	21.33	18.89	21.15	12.49	19.06	17.74	23.42	12.81	15.17	12.51	30.31	18.96	15.46	12.90	17.38	8.49	15.65	9.12	6.92	<b>27</b>	
Wnt signaling pathway	15.39	10.64	10.09	11.45	10.56	11.77	10.94	10.77	12.99	12.88	15.83	9.69	10.95	14.95	11.32	7.98	9.23	16.14	11.47	10.94	12.75	7.06	12.61	8.63	10.19	12.34	12.96	<b>27</b>	
Notch signaling pathway	6.90	6.04	5.69	6.51	7.40	6.54	9.48	6.04	5.92	10.78	5.75	7.03	6.10	6.71	6.63	9.06	6.75	8.77	9.76	0.00	7.01	10.97	5.79	6.34	6.20	6.81	3.94	<b>26</b>	
TGF-beta signaling pathway	5.74	7.48	7.10	8.08	6.19	5.39	10.75	7.56	7.28	5.90	7.21	8.86	4.90	5.60	8.14	4.49	8.42	7.73	4.99	4.70	12.32	3.11	7.04	0.00	7.58	5.60	3.26	<b>26</b>	
Transcriptional misregulation in cancer	14.22	23.45	22.15	10.42	12.75	10.73	12.41	27.33	20.15	11.88	26.23	11.77	27.84	13.69	18.83	17.55	20.32	0.00	13.12	18.02	11.83	12.30	16.57	16.15	20.51	8.60	6.74	<b>26</b>	
HIF-1 signaling pathway	10.52	18.27	8.56	16.00	15.03	12.97	12.23	12.12	14.64	14.10	11.62	7.86	9.30	10.10	15.83	3.88	10.41	10.24	9.76	9.40	14.01	0.00	11.34	7.01	14.83	0.00	5.24	<b>25</b>	
Proteoglycans in cancer	7.37	10.55	3.70	6.68	3.54	9.23	6.06	6.04	5.77	10.46	5.55	5.26	6.12	4.97	6.70	3.88	0.00	7.91	6.48	6.10	10.37	0.00	5.59	0.00	4.16	0.00	5.75	<b>23</b>	
p53 signaling pathway	6.09	8.02	4.87	5.62	13.68	5.77	5.23	11.20	5.07	6.21	10.80	3.09	0.00	5.93	5.77	0.00	5.97	0.00	11.76	11.21	3.31	3.32	4.95	0.00	5.29	0.00	0.00	<b>21</b>	
Apoptosis	8.34	7.18	4.29	7.84	5.97	7.93	4.67	4.53	6.97	8.77	4.28	0.00	4.70	8.09	10.70	0.00	8.23	4.14	0.00	0.00	0.00	3.00	6.78	9.72	9.72	0.00	0.00	<b>20</b>	
Hippo signaling pathway	6.46	3.24	4.96	3.71	0.00	3.84	5.38	7.71	7.37	0.00	7.29	0.00	3.26	6.26	3.71	0.00	6.29	3.26	3.38	0.00	4.10	0.00	7.10	0.00	0.00	3.82	4.36	<b>19</b>	
PI3K-Akt signaling pathway	3.75	7.96	0.00	4.97	6.59	5.20	4.52	4.36	4.17	5.97	3.90	0.00	4.56	3.51	8.88	0.00	0.00	4.01	4.72	0.00	3.84	0.00	0.00	0.00	4.37	0.00	0.00	<b>17</b>	
Jak-STAT signaling pathway	3.93	3.13	0.00	5.68	0.00	5.85	5.23	0.00	4.99	4.13	0.00	3.85	5.28	3.72	5.79	0.00	0.00	5.84	0.00	0.00	6.43	0.00	0.00	3.39	3.20	0.00	4.29	<b>16</b>	
ErbB signaling pathway	0.00	4.59	0.00	5.05	3.13	5.20	4.68	0.00	4.53	3.13	4.28	0.00	4.71	0.00	5.20	0.00	0.00	0.00	4.83	0.00	5.54	0.00	0.00	0.00	0.00	0.00	3.14	<b>13</b>	
Neurotrophin signaling pathway	4.71	3.85	0.00	4.37	0.00	4.46	0.00	0.00	3.78	4.92	0.00	0.00	0.00	4.50	6.73	0.00	4.61	3.68	0.00	0.00	0.00	0.00	3.53	0.00	6.22	0.00	0.00	<b>12</b>	
MAPK signaling pathway	0.00	0.00	0.00	0.00	3.20	4.40	3.73	3.59	3.53	3.09	4.98	0.00	0.00	6.52	6.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.70	0.00	0.00	<b>10</b>
Prolactin signaling pathway	3.21	0.00	0.00	5.51	0.00	5.67	0.00	0.00	4.99	3.42	0.00	0.00	0.00	5.85	8.55	0.00	3.24	0.00	0.00	0.00	3.25	0.00	0.00	0.00	5.25	0.00	0.00	<b>10</b>	
Toll-like receptor signaling pathway	5.02	4.15	0.00	4.64	0.00	4.74	0.00	0.00	4.09	5.23	0.00	0.00	0.00	0.00	7.16	0.00	0.00	3.84	0.00	0.00	0.00	0.00	3.83	0.00	6.64	0.00	0.00	<b>10</b>	
Focal adhesion	0.00	0.00	0.00	3.01	0.00	3.10	0.00	0.00	0.00	3.50	0.00	0.00	0.00	0.00	3.00	4.64	3.36	0.00	4.64	0.00	3.36	0.00	0.00	0.00	0.00	0.00	0.00	<b>8</b>	
Estrogen signaling pathway	0.00	4.33	0.00	4.81	0.00	0.00	4.47	0.00	4.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.26	0.00	0.00	0.00	0.00	0.00	0.00	<b>5</b>	
NOD-like receptor signaling pathway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.38	3.35	0.00	3.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.07	0.00	0.00	<b>4</b>	
Rap1 signaling pathway	0.00	0.00	0.00	3.00	0.00	3.10	0.00	0.00	0.00	3.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.36	0.00	0.00	0.00	0.00	0.00	0.00	<b>4</b>	
TNF signaling pathway	0.00	0.00	0.00	4.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.60	0.00	4.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.15	0.00	0.00	<b>4</b>	
Ras signaling pathway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.40	0.00	0.00	0.00	3.02	4.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>3</b>	
mTOR signaling pathway	0.00	0.00	0.00	0.00	3.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>2</b>	
T cell receptor signaling pathway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.34	0.00	0.00	<b>2</b>	
AMPK signaling pathway	0.00	3.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>1</b>	
Oxytocin signaling pathway	0.00	3.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>1</b>	
Tight junction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>1</b>	

KEGG pathways enrichment in drivers + TF for any given cancer type. Data are reported as  $(-\log_{10}(\text{FDR}))$ . The table also reports the following Pan-Cancer analysis (bold red): number of tumors in which the pathway is enriched (“In tumors”)

**Supplemental Table 10. Druggability of the cancer matrisome**

<b>drug name</b>	<b>tumor type</b>	<b>mechanism</b>	<b>use</b>	<b>molecular target</b>
THIOTEPA	ACC	ctx	off label	specific master
CAPECITABINE	ACC	ctx	off label	specific master
CYCLOPHOSPHAMIDE	ACC	ctx	off label	specific master
DOCETAXEL	ACC	ctx	off label	specific master
EPIRUBICIN	ACC	ctx	off label	specific master
EVEROLIMUS	ACC	tgt	off label	specific master
GEMCITABINE	ACC	ctx	off label	specific master
LETROZOLE	ACC	tgt	off label	specific master
PACLITAXEL	ACC	ctx	off label	specific master
BEVACIZUMAB	ACC	tgt	off label	specific master
CETUXIMAB	ACC	tgt	off label	specific master
IRINOTECAN	ACC	ctx	off label	specific master
OXALIPLATIN	ACC	ctx	off label	specific master
PANITUMUMAB	ACC	tgt	off label	specific master
TEMOZOLOMIDE	ACC	ctx	off label	specific master
TEMSIROLIMUS	ACC	tgt	off label	specific master
CRIZOTINIB	ACC	tgt	off label	specific master
ETOPOSIDE	ACC	ctx	off label	specific master
CARBOPLATIN	ACC	ctx	off label	specific master
OLAPARIB	ACC	tgt	off label	specific master
MITOMYCIN	ACC	ctx	off label	specific master
DABRAFENIB	ACC	tgt	off label	specific master
PEMBROLIZUMAB	ACC	tgt	off label	specific master
TRAMETINIB	ACC	tgt	off label	specific master
VEMURAFENIB	ACC	tgt	off label	specific master
IFOSFAMIDE	ACC	ctx	off label	specific master
LEUPROLIDE ACETATE	ACC	tgt	off label	transcription factor
THIOTEPA	BLCA	ctx	on label	specific master
CAPECITABINE	BLCA	ctx	off label	specific master
CYCLOPHOSPHAMIDE	BLCA	ctx	off label	specific master
DOCETAXEL	BLCA	ctx	off label	specific master
EPIRUBICIN	BLCA	ctx	off label	specific master
EVEROLIMUS	BLCA	tgt	off label	specific master
FLUOROURACIL	BLCA	ctx	off label	specific master
FULVESTRANT	BLCA	tgt	off label	specific master
GEMCITABINE	BLCA	ctx	off label	specific master
LETROZOLE	BLCA	tgt	off label	specific master

METHOTREXATE	BLCA	ctx	off label	specific master
PACLITAXEL	BLCA	ctx	off label	specific master
PERTUZUMAB	BLCA	tgt	off label	specific master
THIOTEPA	BLCA	ctx	off label	specific master
TRASTUZUMAB	BLCA	tgt	off label	specific master
BEVACIZUMAB	BLCA	tgt	off label	specific master
CETUXIMAB	BLCA	tgt	off label	specific master
IRINOTECAN	BLCA	ctx	off label	specific master
OXALIPLATIN	BLCA	ctx	off label	specific master
PANITUMUMAB	BLCA	tgt	off label	specific master
REGORAFENIB	BLCA	tgt	off label	specific master
TEMOZOLOMIDE	BLCA	ctx	off label	specific master
TEMSIROLIMUS	BLCA	tgt	off label	specific master
CRIZOTINIB	BLCA	tgt	off label	specific master
ETOPOSIDE	BLCA	ctx	off label	specific master
CARBOPLATIN	BLCA	ctx	off label	specific master
MELPHALAN	BLCA	ctx	off label	specific master
OLAPARIB	BLCA	tgt	off label	specific master
MITOMYCIN	BLCA	ctx	off label	specific master
FLUTAMIDE	BLCA	tgt	off label	specific master
DABRAFENIB	BLCA	tgt	off label	specific master
PEMBROLIZUMAB	BLCA	tgt	off label	specific master
TRAMETINIB	BLCA	tgt	off label	specific master
VEMURAFENIB	BLCA	tgt	off label	specific master
FLOXURIDINE	BLCA	ctx	off label	specific master
IFOSFAMIDE	BLCA	ctx	off label	specific master
CABOZANTINIB	BLCA	tgt	off label	specific master
VANDETANIB	BLCA	tgt	off label	specific master
BICALUTAMIDE	BLCA	tgt	off label	transcription factor
LEUPROLIDE ACETATE	BLCA	tgt	off label	transcription factor
OXALIPLATIN	BLCA	ctx	off label	matrisome
THIOTEPA	BRCA	ctx	off label	specific master
CAPECITABINE	BRCA	ctx	on label	specific master
CYCLOPHOSPHAMIDE	BRCA	ctx	on label	specific master
DOCETAXEL	BRCA	ctx	on label	specific master
EPIRUBICIN	BRCA	ctx	on label	specific master
EVEROLIMUS	BRCA	tgt	on label	specific master
FLUOROURACIL	BRCA	ctx	on label	specific master
FULVESTRANT	BRCA	tgt	on label	specific master
GEMCITABINE	BRCA	ctx	on label	specific master
LETROZOLE	BRCA	tgt	on label	specific master

PACLITAXEL	BRCA	ctx	on label	specific master
PERTUZUMAB	BRCA	tgt	on label	specific master
THIOTEPA	BRCA	ctx	on label	specific master
TRASTUZUMAB	BRCA	tgt	on label	specific master
BEVACIZUMAB	BRCA	tgt	off label	specific master
CAPECITABINE	BRCA	ctx	off label	specific master
CETUXIMAB	BRCA	tgt	off label	specific master
FLUOROURACIL	BRCA	ctx	off label	specific master
IRINOTECAN	BRCA	ctx	off label	specific master
OXALIPLATIN	BRCA	ctx	off label	specific master
PANITUMUMAB	BRCA	tgt	off label	specific master
REGORAFENIB	BRCA	tgt	off label	specific master
CYCLOPHOSPHAMIDE	BRCA	ctx	off label	specific master
DOCETAXEL	BRCA	ctx	off label	specific master
EVEROLIMUS	BRCA	tgt	off label	specific master
TEMOZOLOMIDE	BRCA	ctx	off label	specific master
TEMSIROLIMUS	BRCA	tgt	off label	specific master
CRIZOTINIB	BRCA	tgt	off label	specific master
ETOPOSIDE	BRCA	ctx	off label	specific master
GEMCITABINE	BRCA	ctx	off label	specific master
PACLITAXEL	BRCA	ctx	off label	specific master
CARBOPLATIN	BRCA	ctx	off label	specific master
OLAPARIB	BRCA	tgt	off label	specific master
MITOMYCIN	BRCA	ctx	off label	specific master
DABRAFENIB	BRCA	tgt	off label	specific master
PEMBROLIZUMAB	BRCA	tgt	off label	specific master
TRAMETINIB	BRCA	tgt	off label	specific master
VEMURAFENIB	BRCA	tgt	off label	specific master
FLOXURIDINE	BRCA	ctx	off label	specific master
TRASTUZUMAB	BRCA	tgt	off label	specific master
IFOSFAMIDE	BRCA	ctx	off label	specific master
CABOZANTINIB	BRCA	tgt	off label	specific master
CETUXIMAB	BRCA	tgt	off label	transcription factor
BICALUTAMIDE	BRCA	tgt	off label	transcription factor
LEUPROLIDE ACETATE	BRCA	tgt	off label	transcription factor
THIOTEPA	CESC	ctx	off label	specific master
CAPECITABINE	CESC	ctx	off label	specific master
CYCLOPHOSPHAMIDE	CESC	ctx	off label	specific master
DOCETAXEL	CESC	ctx	off label	specific master
EPIRUBICIN	CESC	ctx	off label	specific master
EVEROLIMUS	CESC	tgt	off label	specific master

FLUOROURACIL	CESC	ctx	off label	specific master
FULVESTRANT	CESC	tgt	off label	specific master
GEMCITABINE	CESC	ctx	off label	specific master
LETROZOLE	CESC	tgt	off label	specific master
METHOTREXATE	CESC	ctx	off label	specific master
PACLITAXEL	CESC	ctx	off label	specific master
PERTUZUMAB	CESC	tgt	off label	specific master
TRASTUZUMAB	CESC	tgt	off label	specific master
BEVACIZUMAB	CESC	tgt	off label	specific master
CETUXIMAB	CESC	tgt	off label	specific master
IRINOTECAN	CESC	ctx	off label	specific master
OXALIPLATIN	CESC	ctx	off label	specific master
PANITUMUMAB	CESC	tgt	off label	specific master
REGORAFENIB	CESC	tgt	off label	specific master
TEMOZOLOMIDE	CESC	ctx	off label	specific master
TEMSIROLIMUS	CESC	tgt	off label	specific master
CRIZOTINIB	CESC	tgt	off label	specific master
ETOPOSIDE	CESC	ctx	off label	specific master
CARBOPLATIN	CESC	ctx	off label	specific master
OLAPARIB	CESC	tgt	off label	specific master
MITOMYCIN	CESC	ctx	off label	specific master
DABRAFENIB	CESC	tgt	off label	specific master
PEMBROLIZUMAB	CESC	tgt	off label	specific master
TRAMETINIB	CESC	tgt	off label	specific master
VEMURAFENIB	CESC	tgt	off label	specific master
FLOXURIDINE	CESC	ctx	off label	specific master
IFOSFAMIDE	CESC	ctx	off label	specific master
CABOZANTINIB	CESC	tgt	off label	specific master
BICALUTAMIDE	CESC	tgt	off label	transcription factor
LEUPROLIDE ACETATE	CESC	tgt	off label	transcription factor
PACLITAXEL	CESC	ctx	off label	matrisome
TRASTUZUMAB	CESC	tgt	off label	matrisome
CETUXIMAB	CESC	tgt	off label	matrisome
CARMUSTINE	CESC	ctx	off label	matrisome
GEFITINIB	CESC	tgt	off label	matrisome
DACARBAZINE	CESC	ctx	off label	matrisome
TRASTUZUMAB	CHOL	tgt	off label	specific master
THIOTEPA	CHOL	ctx	off label	transcription factor
CAPECITABINE	CHOL	ctx	off label	transcription factor
CYCLOPHOSPHAMIDE	CHOL	ctx	off label	transcription factor
DOCETAXEL	CHOL	ctx	off label	transcription factor

EPIRUBICIN	CHOL	ctx	off label	transcription factor
GEMCITABINE	CHOL	ctx	off label	transcription factor
PACLITAXEL	CHOL	ctx	off label	transcription factor
BEVACIZUMAB	CHOL	tgt	off label	transcription factor
CETUXIMAB	CHOL	tgt	off label	transcription factor
IRINOTECAN	CHOL	ctx	off label	transcription factor
OXALIPLATIN	CHOL	ctx	off label	transcription factor
PANITUMUMAB	CHOL	tgt	off label	transcription factor
TEMOZOLOMIDE	CHOL	ctx	off label	transcription factor
CRIZOTINIB	CHOL	tgt	off label	transcription factor
ETOPOSIDE	CHOL	ctx	off label	transcription factor
CARBOPLATIN	CHOL	ctx	off label	transcription factor
OLAPARIB	CHOL	tgt	off label	transcription factor
MITOMYCIN	CHOL	ctx	off label	transcription factor
DABRAFENIB	CHOL	tgt	off label	transcription factor
PEMBROLIZUMAB	CHOL	tgt	off label	transcription factor
TRAMETINIB	CHOL	tgt	off label	transcription factor
VEMURAFENIB	CHOL	tgt	off label	transcription factor
IFOSFAMIDE	CHOL	ctx	off label	transcription factor
THIOTEPA	COADREAD	ctx	off label	specific master
CAPECITABINE	COADREAD	ctx	off label	specific master
CYCLOPHOSPHAMIDE	COADREAD	ctx	off label	specific master
DOCETAXEL	COADREAD	ctx	off label	specific master
EPIRUBICIN	COADREAD	ctx	off label	specific master
EVEROLIMUS	COADREAD	tgt	off label	specific master
FLUOROURACIL	COADREAD	ctx	off label	specific master
FULVESTRANT	COADREAD	tgt	off label	specific master
GEMCITABINE	COADREAD	ctx	off label	specific master
LETROZOLE	COADREAD	tgt	off label	specific master
PACLITAXEL	COADREAD	ctx	off label	specific master
PERTUZUMAB	COADREAD	tgt	off label	specific master
TRASTUZUMAB	COADREAD	tgt	off label	specific master
BEVACIZUMAB	COADREAD	tgt	on label	specific master
CAPECITABINE	COADREAD	ctx	on label	specific master
CETUXIMAB	COADREAD	tgt	on label	specific master
FLUOROURACIL	COADREAD	ctx	on label	specific master
IRINOTECAN	COADREAD	ctx	on label	specific master
OXALIPLATIN	COADREAD	ctx	on label	specific master
PANITUMUMAB	COADREAD	tgt	on label	specific master
REGORAFENIB	COADREAD	tgt	on label	specific master
BEVACIZUMAB	COADREAD	tgt	off label	specific master

TEMOZOLOMIDE	COADREAD	ctx	off label	specific master
CETUXIMAB	COADREAD	tgt	off label	specific master
TEMSIROLIMUS	COADREAD	tgt	off label	specific master
CRIZOTINIB	COADREAD	tgt	off label	specific master
ETOPOSIDE	COADREAD	ctx	off label	specific master
CARBOPLATIN	COADREAD	ctx	off label	specific master
OLAPARIB	COADREAD	tgt	off label	specific master
MITOMYCIN	COADREAD	ctx	off label	specific master
DABRAFENIB	COADREAD	tgt	off label	specific master
PEMBROLIZUMAB	COADREAD	tgt	off label	specific master
TRAMETINIB	COADREAD	tgt	off label	specific master
VEMURAFENIB	COADREAD	tgt	off label	specific master
FLOXURIDINE	COADREAD	ctx	off label	specific master
REGORAFENIB	COADREAD	tgt	off label	specific master
IFOSFAMIDE	COADREAD	ctx	off label	specific master
CABOZANTINIB	COADREAD	tgt	off label	specific master
LEUPROLIDE ACETATE	COADREAD	tgt	off label	transcription factor
THIOTEPA	ESCA	ctx	off label	specific master
CAPECITABINE	ESCA	ctx	off label	specific master
CYCLOPHOSPHAMIDE	ESCA	ctx	off label	specific master
DOCETAXEL	ESCA	ctx	off label	specific master
EPIRUBICIN	ESCA	ctx	off label	specific master
EVEROLIMUS	ESCA	tgt	off label	specific master
FLUOROURACIL	ESCA	ctx	off label	specific master
FULVESTRANT	ESCA	tgt	off label	specific master
GEMCITABINE	ESCA	ctx	off label	specific master
LETROZOLE	ESCA	tgt	off label	specific master
METHOTREXATE	ESCA	ctx	off label	specific master
PACLITAXEL	ESCA	ctx	off label	specific master
PERTUZUMAB	ESCA	tgt	off label	specific master
TRASTUZUMAB	ESCA	tgt	off label	specific master
BEVACIZUMAB	ESCA	tgt	off label	specific master
CETUXIMAB	ESCA	tgt	off label	specific master
IRINOTECAN	ESCA	ctx	off label	specific master
OXALIPLATIN	ESCA	ctx	off label	specific master
PANITUMUMAB	ESCA	tgt	off label	specific master
REGORAFENIB	ESCA	tgt	off label	specific master
TEMOZOLOMIDE	ESCA	ctx	off label	specific master
TEMSIROLIMUS	ESCA	tgt	off label	specific master
CRIZOTINIB	ESCA	tgt	off label	specific master
ETOPOSIDE	ESCA	ctx	off label	specific master

CARBOPLATIN	ESCA	ctx	off label	specific master
OLAPARIB	ESCA	tgt	off label	specific master
MITOMYCIN	ESCA	ctx	off label	specific master
DABRAFENIB	ESCA	tgt	off label	specific master
PEMBROLIZUMAB	ESCA	tgt	off label	specific master
TRAMETINIB	ESCA	tgt	off label	specific master
VEMURAFENIB	ESCA	tgt	off label	specific master
FLOXURIDINE	ESCA	ctx	off label	specific master
IFOSFAMIDE	ESCA	ctx	off label	specific master
CABOZANTINIB	ESCA	tgt	off label	specific master
BICALUTAMIDE	ESCA	tgt	off label	transcription factor
LEUPROLIDE ACETATE	ESCA	tgt	off label	transcription factor
EPIRUBICIN	ESCA	ctx	off label	matrisome
THIOTEPA	GBM	ctx	off label	specific master
CAPECITABINE	GBM	ctx	off label	specific master
CYCLOPHOSPHAMIDE	GBM	ctx	off label	specific master
DOCETAXEL	GBM	ctx	off label	specific master
EPIRUBICIN	GBM	ctx	off label	specific master
EVEROLIMUS	GBM	tgt	off label	specific master
FULVESTRANT	GBM	tgt	off label	specific master
GEMCITABINE	GBM	ctx	off label	specific master
LAPATINIB DITOSYLATE	GBM	tgt	off label	specific master
METHOTREXATE	GBM	ctx	off label	specific master
PACLITAXEL	GBM	ctx	off label	specific master
TRASTUZUMAB	GBM	tgt	off label	specific master
BEVACIZUMAB	GBM	tgt	off label	specific master
CETUXIMAB	GBM	tgt	off label	specific master
IRINOTECAN	GBM	ctx	off label	specific master
OXALIPLATIN	GBM	ctx	off label	specific master
PANITUMUMAB	GBM	tgt	off label	specific master
REGORAFENIB	GBM	tgt	off label	specific master
BEVACIZUMAB	GBM	tgt	on label	specific master
CYCLOPHOSPHAMIDE	GBM	ctx	on label	specific master
DOCETAXEL	GBM	ctx	on label	specific master
EVEROLIMUS	GBM	tgt	on label	specific master
LOMUSTINE	GBM	ctx	on label	specific master
TEMOZOLOMIDE	GBM	ctx	on label	specific master
TEMSIROLIMUS	GBM	tgt	off label	specific master
LOMUSTINE	GBM	ctx	off label	specific master
TEMOZOLOMIDE	GBM	ctx	off label	specific master
AFATINIB	GBM	tgt	off label	specific master



CRIZOTINIB	GBM	tgt	off label	specific master
ERLOTINIB HYDROCHLORIDE	GBM	tgt	off label	specific master
ETOPOSIDE	GBM	ctx	off label	specific master
GEFITINIB	GBM	tgt	off label	specific master
CARBOPLATIN	GBM	ctx	off label	specific master
OLAPARIB	GBM	tgt	off label	specific master
MITOMYCIN	GBM	ctx	off label	specific master
ENZALUTAMIDE	GBM	tgt	off label	specific master
DABRAFENIB	GBM	tgt	off label	specific master
NIVOLUMAB	GBM	tgt	off label	specific master
PEMBROLIZUMAB	GBM	tgt	off label	specific master
TRAMETINIB	GBM	tgt	off label	specific master
VEMURAFENIB	GBM	tgt	off label	specific master
IFOSFAMIDE	GBM	ctx	off label	specific master
CABOZANTINIB	GBM	tgt	off label	specific master
VANDETANIB	GBM	tgt	off label	specific master
THIOTEPA	GBM	ctx	off label	transcription factor
CAPECITABINE	GBM	ctx	off label	transcription factor
CYCLOPHOSPHAMIDE	GBM	ctx	off label	transcription factor
DOCETAXEL	GBM	ctx	off label	transcription factor
EPIRUBICIN	GBM	ctx	off label	transcription factor
GEMCITABINE	GBM	ctx	off label	transcription factor
PACLITAXEL	GBM	ctx	off label	transcription factor
BEVACIZUMAB	GBM	tgt	off label	transcription factor
CETUXIMAB	GBM	tgt	off label	transcription factor
IRINOTECAN	GBM	ctx	off label	transcription factor
OXALIPLATIN	GBM	ctx	off label	transcription factor
PANITUMUMAB	GBM	tgt	off label	transcription factor
BEVACIZUMAB	GBM	tgt	on label	transcription factor
CYCLOPHOSPHAMIDE	GBM	ctx	on label	transcription factor
DOCETAXEL	GBM	ctx	on label	transcription factor
TEMOZOLOMIDE	GBM	ctx	on label	transcription factor
TEMOZOLOMIDE	GBM	ctx	off label	transcription factor
CRIZOTINIB	GBM	tgt	off label	transcription factor
ETOPOSIDE	GBM	ctx	off label	transcription factor
CARBOPLATIN	GBM	ctx	off label	transcription factor
OLAPARIB	GBM	tgt	off label	transcription factor
MITOMYCIN	GBM	ctx	off label	transcription factor
BICALUTAMIDE	GBM	tgt	off label	transcription factor
DABRAFENIB	GBM	tgt	off label	transcription factor
PEMBROLIZUMAB	GBM	tgt	off label	transcription factor

TRAMETINIB	GBM	tgt	off label	transcription factor
VEMURAFENIB	GBM	tgt	off label	transcription factor
IFOSFAMIDE	GBM	ctx	off label	transcription factor
EPIRUBICIN	GBM	ctx	off label	matrisome
AXITINIB	GBM	tgt	off label	matrisome
DACTINOMYCIN	GBM	ctx	off label	matrisome
THIOTEPA	HNSC	ctx	off label	specific master
CAPECITABINE	HNSC	ctx	off label	specific master
CYCLOPHOSPHAMIDE	HNSC	ctx	off label	specific master
DOCETAXEL	HNSC	ctx	off label	specific master
EPIRUBICIN	HNSC	ctx	off label	specific master
EVEROLIMUS	HNSC	tgt	off label	specific master
FLUOROURACIL	HNSC	ctx	off label	specific master
FULVESTRANT	HNSC	tgt	off label	specific master
GEMCITABINE	HNSC	ctx	off label	specific master
LETROZOLE	HNSC	tgt	off label	specific master
METHOTREXATE	HNSC	ctx	off label	specific master
PACLITAXEL	HNSC	ctx	off label	specific master
PERTUZUMAB	HNSC	tgt	off label	specific master
TRASTUZUMAB	HNSC	tgt	off label	specific master
BEVACIZUMAB	HNSC	tgt	off label	specific master
CETUXIMAB	HNSC	tgt	off label	specific master
IRINOTECAN	HNSC	ctx	off label	specific master
OXALIPLATIN	HNSC	ctx	off label	specific master
PANITUMUMAB	HNSC	tgt	off label	specific master
REGORAFENIB	HNSC	tgt	off label	specific master
TEMOZOLOMIDE	HNSC	ctx	off label	specific master
CETUXIMAB	HNSC	tgt	on label	specific master
DOCETAXEL	HNSC	ctx	on label	specific master
METHOTREXATE	HNSC	ctx	on label	specific master
TEMSIROLIMUS	HNSC	tgt	off label	specific master
CRIZOTINIB	HNSC	tgt	off label	specific master
ETOPOSIDE	HNSC	ctx	off label	specific master
CARBOPLATIN	HNSC	ctx	off label	specific master
OLAPARIB	HNSC	tgt	off label	specific master
MITOMYCIN	HNSC	ctx	off label	specific master
FLUTAMIDE	HNSC	tgt	off label	specific master
DABRAFENIB	HNSC	tgt	off label	specific master
PEMBROLIZUMAB	HNSC	tgt	off label	specific master
TRAMETINIB	HNSC	tgt	off label	specific master
VEMURAFENIB	HNSC	tgt	off label	specific master

FLOXURIDINE	HNSC	ctx	off label	specific master
IFOSFAMIDE	HNSC	ctx	off label	specific master
CABOZANTINIB	HNSC	tgt	off label	specific master
PACLITAXEL	HNSC	ctx	off label	transcription factor
CETUXIMAB	HNSC	tgt	off label	transcription factor
CETUXIMAB	HNSC	tgt	on label	transcription factor
BICALUTAMIDE	HNSC	tgt	off label	transcription factor
LEUPROLIDE ACETATE	HNSC	tgt	off label	transcription factor
EPIRUBICIN	HNSC	ctx	off label	matrisome
THIOTEPA	KICH	ctx	off label	specific master
CAPECITABINE	KICH	ctx	off label	specific master
CYCLOPHOSPHAMIDE	KICH	ctx	off label	specific master
DOCETAXEL	KICH	ctx	off label	specific master
EPIRUBICIN	KICH	ctx	off label	specific master
GEMCITABINE	KICH	ctx	off label	specific master
PACLITAXEL	KICH	ctx	off label	specific master
BEVACIZUMAB	KICH	tgt	off label	specific master
CETUXIMAB	KICH	tgt	off label	specific master
IRINOTECAN	KICH	ctx	off label	specific master
OXALIPLATIN	KICH	ctx	off label	specific master
PANITUMUMAB	KICH	tgt	off label	specific master
TEMOZOLOMIDE	KICH	ctx	off label	specific master
BEVACIZUMAB	KICH	tgt	on label	specific master
CRIZOTINIB	KICH	tgt	off label	specific master
ETOPOSIDE	KICH	ctx	off label	specific master
CARBOPLATIN	KICH	ctx	off label	specific master
OLAPARIB	KICH	tgt	off label	specific master
MITOMYCIN	KICH	ctx	off label	specific master
DABRAFENIB	KICH	tgt	off label	specific master
PEMBROLIZUMAB	KICH	tgt	off label	specific master
TRAMETINIB	KICH	tgt	off label	specific master
VEMURAFENIB	KICH	tgt	off label	specific master
IFOSFAMIDE	KICH	ctx	off label	specific master
METHOTREXATE	KICH	ctx	off label	transcription factor
LEUPROLIDE ACETATE	KICH	tgt	off label	transcription factor
DOCETAXEL	KICH	ctx	off label	matrisome
EVEROLIMUS	KIRC	tgt	off label	specific master
BEVACIZUMAB	KIRC	tgt	off label	specific master
REGORAFENIB	KIRC	tgt	off label	specific master
AXITINIB	KIRC	tgt	off label	specific master
TEMSIROLIMUS	KIRC	tgt	off label	specific master

AXITINIB	KIRC	tgt	on label	specific master
BEVACIZUMAB	KIRC	tgt	on label	specific master
EVEROLIMUS	KIRC	tgt	on label	specific master
TEMSIROLIMUS	KIRC	tgt	on label	specific master
OLAPARIB	KIRC	tgt	off label	specific master
TRAMETINIB	KIRC	tgt	off label	specific master
THIOTEPA	KIRC	ctx	off label	transcription factor
CAPECITABINE	KIRC	ctx	off label	transcription factor
CYCLOPHOSPHAMIDE	KIRC	ctx	off label	transcription factor
DOCETAXEL	KIRC	ctx	off label	transcription factor
EPIRUBICIN	KIRC	ctx	off label	transcription factor
GEMCITABINE	KIRC	ctx	off label	transcription factor
PACLITAXEL	KIRC	ctx	off label	transcription factor
BEVACIZUMAB	KIRC	tgt	off label	transcription factor
CETUXIMAB	KIRC	tgt	off label	transcription factor
IRINOTECAN	KIRC	ctx	off label	transcription factor
OXALIPLATIN	KIRC	ctx	off label	transcription factor
PANITUMUMAB	KIRC	tgt	off label	transcription factor
TEMOZOLOMIDE	KIRC	ctx	off label	transcription factor
BEVACIZUMAB	KIRC	tgt	on label	transcription factor
CRIZOTINIB	KIRC	tgt	off label	transcription factor
ETOPOSIDE	KIRC	ctx	off label	transcription factor
CARBOPLATIN	KIRC	ctx	off label	transcription factor
OLAPARIB	KIRC	tgt	off label	transcription factor
MITOMYCIN	KIRC	ctx	off label	transcription factor
DABRAFENIB	KIRC	tgt	off label	transcription factor
PEMBROLIZUMAB	KIRC	tgt	off label	transcription factor
TRAMETINIB	KIRC	tgt	off label	transcription factor
VEMURAFENIB	KIRC	tgt	off label	transcription factor
IFOSFAMIDE	KIRC	ctx	off label	transcription factor
AXITINIB	KIRC	tgt	off label	matrisome
DACTINOMYCIN	KIRC	ctx	off label	matrisome
AXITINIB	KIRC	tgt	on label	matrisome
DACTINOMYCIN	KIRC	ctx	on label	matrisome
THIOTEPA	LAML	ctx	off label	specific master
CAPECITABINE	LAML	ctx	off label	specific master
CYCLOPHOSPHAMIDE	LAML	ctx	off label	specific master
DOCETAXEL	LAML	ctx	off label	specific master
EPIRUBICIN	LAML	ctx	off label	specific master
GEMCITABINE	LAML	ctx	off label	specific master
PACLITAXEL	LAML	ctx	off label	specific master

BEVACIZUMAB	LAML	tgt	off label	specific master
CETUXIMAB	LAML	tgt	off label	specific master
IRINOTECAN	LAML	ctx	off label	specific master
OXALIPLATIN	LAML	ctx	off label	specific master
PANITUMUMAB	LAML	tgt	off label	specific master
TEMOZOLOMIDE	LAML	ctx	off label	specific master
CERITINIB	LAML	tgt	off label	specific master
CRIZOTINIB	LAML	tgt	off label	specific master
ETOPOSIDE	LAML	ctx	off label	specific master
CARBOPLATIN	LAML	ctx	off label	specific master
OLAPARIB	LAML	tgt	off label	specific master
MITOMYCIN	LAML	ctx	off label	specific master
DABRAFENIB	LAML	tgt	off label	specific master
PEMBROLIZUMAB	LAML	tgt	off label	specific master
TRAMETINIB	LAML	tgt	off label	specific master
VEMURAFENIB	LAML	tgt	off label	specific master
IFOSFAMIDE	LAML	ctx	off label	specific master
CETUXIMAB	LAML	tgt	off label	transcription factor
BICALUTAMIDE	LAML	tgt	off label	transcription factor
LEUPROLIDE ACETATE	LAML	tgt	off label	transcription factor
THIOTEPA	LGG	ctx	off label	specific master
CAPECITABINE	LGG	ctx	off label	specific master
CYCLOPHOSPHAMIDE	LGG	ctx	off label	specific master
DOCETAXEL	LGG	ctx	off label	specific master
EPIRUBICIN	LGG	ctx	off label	specific master
EVEROLIMUS	LGG	tgt	off label	specific master
GEMCITABINE	LGG	ctx	off label	specific master
LAPATINIB DITOSYLATE	LGG	tgt	off label	specific master
METHOTREXATE	LGG	ctx	off label	specific master
PACLITAXEL	LGG	ctx	off label	specific master
TRASTUZUMAB	LGG	tgt	off label	specific master
BEVACIZUMAB	LGG	tgt	off label	specific master
CETUXIMAB	LGG	tgt	off label	specific master
IRINOTECAN	LGG	ctx	off label	specific master
OXALIPLATIN	LGG	ctx	off label	specific master
PANITUMUMAB	LGG	tgt	off label	specific master
REGORAFENIB	LGG	tgt	off label	specific master
TEMOZOLOMIDE	LGG	ctx	off label	specific master
TEMSIROLIMUS	LGG	tgt	off label	specific master
BEVACIZUMAB	LGG	tgt	on label	specific master
CYCLOPHOSPHAMIDE	LGG	ctx	on label	specific master

DOCETAXEL	LGG	ctx	on label	specific master
EVEROLIMUS	LGG	tgt	on label	specific master
TEMOZOLOMIDE	LGG	ctx	on label	specific master
AFATINIB	LGG	tgt	off label	specific master
CRIZOTINIB	LGG	tgt	off label	specific master
ERLOTINIB HYDROCHLORIDE	LGG	tgt	off label	specific master
ETOPOSIDE	LGG	ctx	off label	specific master
GEFITINIB	LGG	tgt	off label	specific master
CARBOPLATIN	LGG	ctx	off label	specific master
OLAPARIB	LGG	tgt	off label	specific master
MITOMYCIN	LGG	ctx	off label	specific master
DABRAFENIB	LGG	tgt	off label	specific master
NIVOLUMAB	LGG	tgt	off label	specific master
PEMBROLIZUMAB	LGG	tgt	off label	specific master
TRAMETINIB	LGG	tgt	off label	specific master
VEMURAFENIB	LGG	tgt	off label	specific master
IFOSFAMIDE	LGG	ctx	off label	specific master
CABOZANTINIB	LGG	tgt	off label	specific master
VANDETANIB	LGG	tgt	off label	specific master
METHOTREXATE	LGG	ctx	off label	transcription factor
FULVESTRANT	LGG	tgt	off label	matrisome
AXITINIB	LGG	tgt	off label	matrisome
DACTINOMYCIN	LGG	ctx	off label	matrisome
THIOTEPA	LUAD	ctx	off label	specific master
CAPECITABINE	LUAD	ctx	off label	specific master
CYCLOPHOSPHAMIDE	LUAD	ctx	off label	specific master
DOCETAXEL	LUAD	ctx	off label	specific master
EPIRUBICIN	LUAD	ctx	off label	specific master
EVEROLIMUS	LUAD	tgt	off label	specific master
GEMCITABINE	LUAD	ctx	off label	specific master
LAPATINIB DITOSYLATE	LUAD	tgt	off label	specific master
PACLITAXEL	LUAD	ctx	off label	specific master
TRASTUZUMAB	LUAD	tgt	off label	specific master
BEVACIZUMAB	LUAD	tgt	off label	specific master
CETUXIMAB	LUAD	tgt	off label	specific master
IRINOTECAN	LUAD	ctx	off label	specific master
OXALIPLATIN	LUAD	ctx	off label	specific master
PANITUMUMAB	LUAD	tgt	off label	specific master
REGORAFENIB	LUAD	tgt	off label	specific master
TEMOZOLOMIDE	LUAD	ctx	off label	specific master
TEMSIROLIMUS	LUAD	tgt	off label	specific master

AFATINIB	LUAD	tgt	on label	specific master
BEVACIZUMAB	LUAD	tgt	on label	specific master
CRIZOTINIB	LUAD	tgt	on label	specific master
DOCETAXEL	LUAD	ctx	on label	specific master
ERLOTINIB HYDROCHLORIDE	LUAD	tgt	on label	specific master
ETOPOSIDE	LUAD	ctx	on label	specific master
GEFITINIB	LUAD	tgt	on label	specific master
GEMCITABINE	LUAD	ctx	on label	specific master
PACLITAXEL	LUAD	ctx	on label	specific master
AFATINIB	LUAD	tgt	off label	specific master
CRIZOTINIB	LUAD	tgt	off label	specific master
ERLOTINIB HYDROCHLORIDE	LUAD	tgt	off label	specific master
ETOPOSIDE	LUAD	ctx	off label	specific master
GEFITINIB	LUAD	tgt	off label	specific master
CARBOPLATIN	LUAD	ctx	off label	specific master
OLAPARIB	LUAD	tgt	off label	specific master
MITOMYCIN	LUAD	ctx	off label	specific master
DABRAFENIB	LUAD	tgt	off label	specific master
NIVOLUMAB	LUAD	tgt	off label	specific master
PEMBROLIZUMAB	LUAD	tgt	off label	specific master
TRAMETINIB	LUAD	tgt	off label	specific master
VEMURAFENIB	LUAD	tgt	off label	specific master
IFOSFAMIDE	LUAD	ctx	off label	specific master
CABOZANTINIB	LUAD	tgt	off label	specific master
VANDETANIB	LUAD	tgt	off label	specific master
BICALUTAMIDE	LUAD	tgt	off label	transcription factor
LEUPROLIDE ACETATE	LUAD	tgt	off label	transcription factor
THIOTEPA	LUSC	ctx	off label	specific master
CAPECITABINE	LUSC	ctx	off label	specific master
CYCLOPHOSPHAMIDE	LUSC	ctx	off label	specific master
DOCETAXEL	LUSC	ctx	off label	specific master
EPIRUBICIN	LUSC	ctx	off label	specific master
EVEROLIMUS	LUSC	tgt	off label	specific master
GEMCITABINE	LUSC	ctx	off label	specific master
METHOTREXATE	LUSC	ctx	off label	specific master
PACLITAXEL	LUSC	ctx	off label	specific master
TRASTUZUMAB	LUSC	tgt	off label	specific master
BEVACIZUMAB	LUSC	tgt	off label	specific master
CETUXIMAB	LUSC	tgt	off label	specific master
IRINOTECAN	LUSC	ctx	off label	specific master
OXALIPLATIN	LUSC	ctx	off label	specific master

PANITUMUMAB	LUSC	tgt	off label	specific master
REGORAFENIB	LUSC	tgt	off label	specific master
TEMOZOLOMIDE	LUSC	ctx	off label	specific master
TEMSIROLIMUS	LUSC	tgt	off label	specific master
CRIZOTINIB	LUSC	tgt	off label	specific master
ETOPOSIDE	LUSC	ctx	off label	specific master
BEVACIZUMAB	LUSC	tgt	on label	specific master
CRIZOTINIB	LUSC	tgt	on label	specific master
DOCETAXEL	LUSC	ctx	on label	specific master
ETOPOSIDE	LUSC	ctx	on label	specific master
GEMCITABINE	LUSC	ctx	on label	specific master
METHOTREXATE	LUSC	ctx	on label	specific master
PACLITAXEL	LUSC	ctx	on label	specific master
CARBOPLATIN	LUSC	ctx	off label	specific master
OLAPARIB	LUSC	tgt	off label	specific master
MITOMYCIN	LUSC	ctx	off label	specific master
FLUTAMIDE	LUSC	tgt	off label	specific master
DABRAFENIB	LUSC	tgt	off label	specific master
PEMBROLIZUMAB	LUSC	tgt	off label	specific master
TRAMETINIB	LUSC	tgt	off label	specific master
VEMURAFENIB	LUSC	tgt	off label	specific master
IFOSFAMIDE	LUSC	ctx	off label	specific master
ANASTROZOLE	LUSC	tgt	off label	transcription factor
LETROZOLE	LUSC	tgt	off label	transcription factor
TOREMIFENE	LUSC	tgt	off label	transcription factor
TRASTUZUMAB	LUSC	tgt	off label	transcription factor
FLUTAMIDE	LUSC	tgt	off label	transcription factor
OXALIPLATIN	LUSC	ctx	off label	matrisome
THIOTEPA	MESO	ctx	off label	specific master
CAPECITABINE	MESO	ctx	off label	specific master
CYCLOPHOSPHAMIDE	MESO	ctx	off label	specific master
DOCETAXEL	MESO	ctx	off label	specific master
EPIRUBICIN	MESO	ctx	off label	specific master
EVEROLIMUS	MESO	tgt	off label	specific master
GEMCITABINE	MESO	ctx	off label	specific master
PACLITAXEL	MESO	ctx	off label	specific master
BEVACIZUMAB	MESO	tgt	off label	specific master
CETUXIMAB	MESO	tgt	off label	specific master
IRINOTECAN	MESO	ctx	off label	specific master
OXALIPLATIN	MESO	ctx	off label	specific master
PANITUMUMAB	MESO	tgt	off label	specific master



TEMOZOLOMIDE	MESO	ctx	off label	specific master
TEMSIROLIMUS	MESO	tgt	off label	specific master
CRIZOTINIB	MESO	tgt	off label	specific master
ETOPOSIDE	MESO	ctx	off label	specific master
CARBOPLATIN	MESO	ctx	off label	specific master
OLAPARIB	MESO	tgt	off label	specific master
MITOMYCIN	MESO	ctx	off label	specific master
DABRAFENIB	MESO	tgt	off label	specific master
PEMBROLIZUMAB	MESO	tgt	off label	specific master
TRAMETINIB	MESO	tgt	off label	specific master
VEMURAFENIB	MESO	tgt	off label	specific master
IFOSFAMIDE	MESO	ctx	off label	specific master
THIOTEPA	PAAD	ctx	off label	specific master
CAPECITABINE	PAAD	ctx	off label	specific master
CYCLOPHOSPHAMIDE	PAAD	ctx	off label	specific master
DOCETAXEL	PAAD	ctx	off label	specific master
EPIRUBICIN	PAAD	ctx	off label	specific master
FLUOROURACIL	PAAD	ctx	off label	specific master
GEMCITABINE	PAAD	ctx	off label	specific master
PACLITAXEL	PAAD	ctx	off label	specific master
TRASTUZUMAB	PAAD	tgt	off label	specific master
BEVACIZUMAB	PAAD	tgt	off label	specific master
CETUXIMAB	PAAD	tgt	off label	specific master
IRINOTECAN	PAAD	ctx	off label	specific master
OXALIPLATIN	PAAD	ctx	off label	specific master
PANITUMUMAB	PAAD	tgt	off label	specific master
TEMOZOLOMIDE	PAAD	ctx	off label	specific master
CRIZOTINIB	PAAD	tgt	off label	specific master
ETOPOSIDE	PAAD	ctx	off label	specific master
CARBOPLATIN	PAAD	ctx	off label	specific master
OLAPARIB	PAAD	tgt	off label	specific master
FLUOROURACIL	PAAD	ctx	on label	specific master
GEMCITABINE	PAAD	ctx	on label	specific master
MITOMYCIN	PAAD	ctx	on label	specific master
PACLITAXEL	PAAD	ctx	on label	specific master
DABRAFENIB	PAAD	tgt	off label	specific master
PEMBROLIZUMAB	PAAD	tgt	off label	specific master
TRAMETINIB	PAAD	tgt	off label	specific master
VEMURAFENIB	PAAD	tgt	off label	specific master
MITOMYCIN	PAAD	ctx	off label	specific master
IFOSFAMIDE	PAAD	ctx	off label	specific master

LEUPROLIDE ACETATE	PAAD	tgt	off label	transcription factor
DOCETAXEL	PCPG	ctx	off label	specific master
EVEROLIMUS	PCPG	tgt	off label	specific master
GEMCITABINE	PCPG	ctx	off label	specific master
BEVACIZUMAB	PCPG	tgt	off label	specific master
CETUXIMAB	PCPG	tgt	off label	specific master
PANITUMUMAB	PCPG	tgt	off label	specific master
HYDROXYUREA	PCPG	tgt	off label	specific master
TRAMETINIB	PCPG	tgt	off label	specific master
CABOZANTINIB	PCPG	tgt	off label	specific master
THIOTEPA	PCPG	ctx	off label	transcription factor
CAPECITABINE	PCPG	ctx	off label	transcription factor
CYCLOPHOSPHAMIDE	PCPG	ctx	off label	transcription factor
DOCETAXEL	PCPG	ctx	off label	transcription factor
EPIRUBICIN	PCPG	ctx	off label	transcription factor
GEMCITABINE	PCPG	ctx	off label	transcription factor
PACLITAXEL	PCPG	ctx	off label	transcription factor
BEVACIZUMAB	PCPG	tgt	off label	transcription factor
CETUXIMAB	PCPG	tgt	off label	transcription factor
IRINOTECAN	PCPG	ctx	off label	transcription factor
OXALIPLATIN	PCPG	ctx	off label	transcription factor
PANITUMUMAB	PCPG	tgt	off label	transcription factor
TEMOZOLOMIDE	PCPG	ctx	off label	transcription factor
CRIZOTINIB	PCPG	tgt	off label	transcription factor
ETOPOSIDE	PCPG	ctx	off label	transcription factor
CARBOPLATIN	PCPG	ctx	off label	transcription factor
OLAPARIB	PCPG	tgt	off label	transcription factor
MITOMYCIN	PCPG	ctx	off label	transcription factor
DABRAFENIB	PCPG	tgt	off label	transcription factor
PEMBROLIZUMAB	PCPG	tgt	off label	transcription factor
TRAMETINIB	PCPG	tgt	off label	transcription factor
VEMURAFENIB	PCPG	tgt	off label	transcription factor
IFOSFAMIDE	PCPG	ctx	off label	transcription factor
DOCETAXEL	PCPG	ctx	off label	matrisome
THIOTEPA	PRAD	ctx	off label	specific master
CAPECITABINE	PRAD	ctx	off label	specific master
CYCLOPHOSPHAMIDE	PRAD	ctx	off label	specific master
DOCETAXEL	PRAD	ctx	off label	specific master
EPIRUBICIN	PRAD	ctx	off label	specific master
GEMCITABINE	PRAD	ctx	off label	specific master
PACLITAXEL	PRAD	ctx	off label	specific master

BEVACIZUMAB	PRAD	tgt	off label	specific master
CETUXIMAB	PRAD	tgt	off label	specific master
IRINOTECAN	PRAD	ctx	off label	specific master
OXALIPLATIN	PRAD	ctx	off label	specific master
PANITUMUMAB	PRAD	tgt	off label	specific master
TEMOZOLOMIDE	PRAD	ctx	off label	specific master
CRIZOTINIB	PRAD	tgt	off label	specific master
ETOPOSIDE	PRAD	ctx	off label	specific master
CARBOPLATIN	PRAD	ctx	off label	specific master
OLAPARIB	PRAD	tgt	off label	specific master
MITOMYCIN	PRAD	ctx	off label	specific master
DOCETAXEL	PRAD	ctx	on label	specific master
DABRAFENIB	PRAD	tgt	off label	specific master
PEMBROLIZUMAB	PRAD	tgt	off label	specific master
TRAMETINIB	PRAD	tgt	off label	specific master
VEMURAFENIB	PRAD	tgt	off label	specific master
IFOSFAMIDE	PRAD	ctx	off label	specific master
THIOTEPA	PRAD	ctx	off label	transcription factor
CAPECITABINE	PRAD	ctx	off label	transcription factor
CYCLOPHOSPHAMIDE	PRAD	ctx	off label	transcription factor
DOCETAXEL	PRAD	ctx	off label	transcription factor
EPIRUBICIN	PRAD	ctx	off label	transcription factor
GEMCITABINE	PRAD	ctx	off label	transcription factor
PACLITAXEL	PRAD	ctx	off label	transcription factor
BEVACIZUMAB	PRAD	tgt	off label	transcription factor
CETUXIMAB	PRAD	tgt	off label	transcription factor
IRINOTECAN	PRAD	ctx	off label	transcription factor
OXALIPLATIN	PRAD	ctx	off label	transcription factor
PANITUMUMAB	PRAD	tgt	off label	transcription factor
TEMOZOLOMIDE	PRAD	ctx	off label	transcription factor
CRIZOTINIB	PRAD	tgt	off label	transcription factor
ETOPOSIDE	PRAD	ctx	off label	transcription factor
CARBOPLATIN	PRAD	ctx	off label	transcription factor
OLAPARIB	PRAD	tgt	off label	transcription factor
MITOMYCIN	PRAD	ctx	off label	transcription factor
DOCETAXEL	PRAD	ctx	on label	transcription factor
DABRAFENIB	PRAD	tgt	off label	transcription factor
PEMBROLIZUMAB	PRAD	tgt	off label	transcription factor
TRAMETINIB	PRAD	tgt	off label	transcription factor
VEMURAFENIB	PRAD	tgt	off label	transcription factor
IFOSFAMIDE	PRAD	ctx	off label	transcription factor

FLUOROURACIL	PRAD	ctx	off label	matrisome
CETUXIMAB	PRAD	tgt	off label	matrisome
THIOTEPA	SARC	ctx	off label	specific master
CAPECITABINE	SARC	ctx	off label	specific master
CYCLOPHOSPHAMIDE	SARC	ctx	off label	specific master
DOCETAXEL	SARC	ctx	off label	specific master
EPIRUBICIN	SARC	ctx	off label	specific master
EVEROLIMUS	SARC	tgt	off label	specific master
GEMCITABINE	SARC	ctx	off label	specific master
METHOTREXATE	SARC	ctx	off label	specific master
PACLITAXEL	SARC	ctx	off label	specific master
BEVACIZUMAB	SARC	tgt	off label	specific master
CETUXIMAB	SARC	tgt	off label	specific master
IRINOTECAN	SARC	ctx	off label	specific master
OXALIPLATIN	SARC	ctx	off label	specific master
PANITUMUMAB	SARC	tgt	off label	specific master
TEMOZOLOMIDE	SARC	ctx	off label	specific master
CRIZOTINIB	SARC	tgt	off label	specific master
ETOPOSIDE	SARC	ctx	off label	specific master
CARBOPLATIN	SARC	ctx	off label	specific master
OLAPARIB	SARC	tgt	off label	specific master
MITOMYCIN	SARC	ctx	off label	specific master
METHOTREXATE	SARC	ctx	on label	specific master
PACLITAXEL	SARC	ctx	on label	specific master
DABRAFENIB	SARC	tgt	off label	specific master
PEMBROLIZUMAB	SARC	tgt	off label	specific master
TRAMETINIB	SARC	tgt	off label	specific master
VEMURAFENIB	SARC	tgt	off label	specific master
IFOSFAMIDE	SARC	ctx	off label	specific master
BICALUTAMIDE	SARC	tgt	off label	transcription factor
THIOTEPA	STAD	ctx	off label	specific master
CAPECITABINE	STAD	ctx	off label	specific master
CYCLOPHOSPHAMIDE	STAD	ctx	off label	specific master
DOCETAXEL	STAD	ctx	off label	specific master
EPIRUBICIN	STAD	ctx	off label	specific master
EVEROLIMUS	STAD	tgt	off label	specific master
FLUOROURACIL	STAD	ctx	off label	specific master
FULVESTRANT	STAD	tgt	off label	specific master
GEMCITABINE	STAD	ctx	off label	specific master
LETROZOLE	STAD	tgt	off label	specific master
PACLITAXEL	STAD	ctx	off label	specific master

PERTUZUMAB	STAD	tgt	off label	specific master
TRASTUZUMAB	STAD	tgt	off label	specific master
BEVACIZUMAB	STAD	tgt	off label	specific master
CETUXIMAB	STAD	tgt	off label	specific master
IRINOTECAN	STAD	ctx	off label	specific master
LEUCOVORIN	STAD	ctx	off label	specific master
OXALIPLATIN	STAD	ctx	off label	specific master
PANITUMUMAB	STAD	tgt	off label	specific master
REGORAFENIB	STAD	tgt	off label	specific master
TEMOZOLOMIDE	STAD	ctx	off label	specific master
TEMSIROLIMUS	STAD	tgt	off label	specific master
AFATINIB	STAD	tgt	off label	specific master
CRIZOTINIB	STAD	tgt	off label	specific master
ETOPOSIDE	STAD	ctx	off label	specific master
GEFITINIB	STAD	tgt	off label	specific master
CARBOPLATIN	STAD	ctx	off label	specific master
OLAPARIB	STAD	tgt	off label	specific master
MITOMYCIN	STAD	ctx	off label	specific master
DABRAFENIB	STAD	tgt	off label	specific master
PEMBROLIZUMAB	STAD	tgt	off label	specific master
TRAMETINIB	STAD	tgt	off label	specific master
VEMURAFENIB	STAD	tgt	off label	specific master
DOCETAXEL	STAD	ctx	on label	specific master
FLOXURIDINE	STAD	ctx	on label	specific master
FLUOROURACIL	STAD	ctx	on label	specific master
MITOMYCIN	STAD	ctx	on label	specific master
REGORAFENIB	STAD	tgt	on label	specific master
TRASTUZUMAB	STAD	tgt	on label	specific master
IFOSFAMIDE	STAD	ctx	off label	specific master
CABOZANTINIB	STAD	tgt	off label	specific master
VANDETANIB	STAD	tgt	off label	specific master
CETUXIMAB	STAD	tgt	off label	transcription factor
BICALUTAMIDE	STAD	tgt	off label	transcription factor
LEUPROLIDE ACETATE	STAD	tgt	off label	transcription factor
THIOTEPA	UCEC	ctx	off label	specific master
CAPECITABINE	UCEC	ctx	off label	specific master
CYCLOPHOSPHAMIDE	UCEC	ctx	off label	specific master
DOCETAXEL	UCEC	ctx	off label	specific master
EPIRUBICIN	UCEC	ctx	off label	specific master
EVEROLIMUS	UCEC	tgt	off label	specific master
GEMCITABINE	UCEC	ctx	off label	specific master

LETROZOLE	UCEC	tgt	off label	specific master
METHOTREXATE	UCEC	ctx	off label	specific master
PACLITAXEL	UCEC	ctx	off label	specific master
TRASTUZUMAB	UCEC	tgt	off label	specific master
BEVACIZUMAB	UCEC	tgt	off label	specific master
CETUXIMAB	UCEC	tgt	off label	specific master
IRINOTECAN	UCEC	ctx	off label	specific master
OXALIPLATIN	UCEC	ctx	off label	specific master
PANITUMUMAB	UCEC	tgt	off label	specific master
REGORAFENIB	UCEC	tgt	off label	specific master
TEMOZOLOMIDE	UCEC	ctx	off label	specific master
TEMSIROLIMUS	UCEC	tgt	off label	specific master
CRIZOTINIB	UCEC	tgt	off label	specific master
ETOPOSIDE	UCEC	ctx	off label	specific master
CARBOPLATIN	UCEC	ctx	off label	specific master
OLAPARIB	UCEC	tgt	off label	specific master
MITOMYCIN	UCEC	ctx	off label	specific master
FLUTAMIDE	UCEC	tgt	off label	specific master
DABRAFENIB	UCEC	tgt	off label	specific master
PEMBROLIZUMAB	UCEC	tgt	off label	specific master
TRAMETINIB	UCEC	tgt	off label	specific master
VEMURAFENIB	UCEC	tgt	off label	specific master
IFOSFAMIDE	UCEC	ctx	off label	specific master
PACLITAXEL	UCEC	ctx	off label	transcription factor
THIOTEPA	UCS	ctx	off label	specific master
CAPECITABINE	UCS	ctx	off label	specific master
CYCLOPHOSPHAMIDE	UCS	ctx	off label	specific master
DOCETAXEL	UCS	ctx	off label	specific master
EPIRUBICIN	UCS	ctx	off label	specific master
GEMCITABINE	UCS	ctx	off label	specific master
PACLITAXEL	UCS	ctx	off label	specific master
TRASTUZUMAB	UCS	tgt	off label	specific master
BEVACIZUMAB	UCS	tgt	off label	specific master
CETUXIMAB	UCS	tgt	off label	specific master
IRINOTECAN	UCS	ctx	off label	specific master
OXALIPLATIN	UCS	ctx	off label	specific master
PANITUMUMAB	UCS	tgt	off label	specific master
TEMOZOLOMIDE	UCS	ctx	off label	specific master
CRIZOTINIB	UCS	tgt	off label	specific master
ETOPOSIDE	UCS	ctx	off label	specific master
CARBOPLATIN	UCS	ctx	off label	specific master

OLAPARIB	UCS	tgt	off label	specific master
MITOMYCIN	UCS	ctx	off label	specific master
DABRAFENIB	UCS	tgt	off label	specific master
PEMBROLIZUMAB	UCS	tgt	off label	specific master
TRAMETINIB	UCS	tgt	off label	specific master
VEMURAFENIB	UCS	tgt	off label	specific master
IFOSFAMIDE	UCS	ctx	off label	specific master
CETUXIMAB	UCS	tgt	off label	transcription factor
THIOTEPA	PANCAN	ctx	off label	general master
CAPECITABINE	PANCAN	ctx	off label	general master
CYCLOPHOSPHAMIDE	PANCAN	ctx	off label	general master
DOCETAXEL	PANCAN	ctx	off label	general master
EPIRUBICIN	PANCAN	ctx	off label	general master
EVEROLIMUS	PANCAN	tgt	off label	general master
FLUOROURACIL	PANCAN	ctx	off label	general master
FULVESTRANT	PANCAN	tgt	off label	general master
GEMCITABINE	PANCAN	ctx	off label	general master
LETROZOLE	PANCAN	tgt	off label	general master
METHOTREXATE	PANCAN	ctx	off label	general master
PACLITAXEL	PANCAN	ctx	off label	general master
PERTUZUMAB	PANCAN	tgt	off label	general master
TRASTUZUMAB	PANCAN	tgt	off label	general master
BEVACIZUMAB	PANCAN	tgt	off label	general master
CETUXIMAB	PANCAN	tgt	off label	general master
IRINOTECAN	PANCAN	ctx	off label	general master
OXALIPLATIN	PANCAN	ctx	off label	general master
PANITUMUMAB	PANCAN	tgt	off label	general master
REGORAFENIB	PANCAN	tgt	off label	general master
TEMOZOLOMIDE	PANCAN	ctx	off label	general master
TEMSIROLIMUS	PANCAN	tgt	off label	general master
CRIZOTINIB	PANCAN	tgt	off label	general master
ETOPOSIDE	PANCAN	ctx	off label	general master
CARBOPLATIN	PANCAN	ctx	off label	general master
OLAPARIB	PANCAN	tgt	off label	general master
MITOMYCIN	PANCAN	ctx	off label	general master
DABRAFENIB	PANCAN	tgt	off label	general master
PEMBROLIZUMAB	PANCAN	tgt	off label	general master
TRAMETINIB	PANCAN	tgt	off label	general master
VEMURAFENIB	PANCAN	tgt	off label	general master
FLOXURIDINE	PANCAN	ctx	off label	general master
IFOSFAMIDE	PANCAN	ctx	off label	general master

CABOZANTINIB	PANCAN	tgt	off label	general master
VANDETANIB	PANCAN	tgt	off label	general master
LAPATINIB DITOSYLATE	PANCAN	tgt	off label	general master
LEUCOVORIN	PANCAN	ctx	off label	general master
AXITINIB	PANCAN	tgt	off label	general master
AFATINIB	PANCAN	tgt	off label	general master
CERITINIB	PANCAN	tgt	off label	general master
ERLOTINIB HYDROCHLORIDE	PANCAN	tgt	off label	general master
GEFITINIB	PANCAN	tgt	off label	general master
FLUTAMIDE	PANCAN	tgt	off label	general master
NIVOLUMAB	PANCAN	tgt	off label	general master
LOMUSTINE	PANCAN	ctx	off label	general master
ENZALUTAMIDE	PANCAN	tgt	off label	general master
BICALUTAMIDE	PANCAN	tgt	off label	general master

Drugs targeting the cancer matrisome. Results are divided by tumor type, gross mechanism of action (ctx, cytotoxic drug; tgt, targeted drug), potential use (on or off label) and molecular target (Pan-Cancer – “general” or cancer-specific – “specific” – master regulators, transcription factors and matrisome molecules). Drugs with Pan-Cancer activity are reported in red.



**Supplemental Table 11. List of FANTOM5 samples**

<b>Sample ID</b>	<b>Tumor(s)</b>
CNhs11893	ACC
CNhs12848	BLCA
CNhs11256	BLCA
CNhs10733	BLCA
CNhs10735	BLCA
CNhs11261	BLCA
CNhs11844	BRCA
CNhs11943	BRCA
CNhs10736	BRCA
CNhs11100	BRCA
CNhs11259	BRCA
CNhs10748	CESC
CNhs12325	CESC
CNhs12326	CESC
CNhs12327	CESC
CNhs11825	CESC
CNhs11885	CESC
CNhs10750	CHOL
CNhs11265	CHOL
CNhs11283	CHOL
CNhs11280	COAD; READ
CNhs10737	COAD; READ
CNhs10734	COAD; READ
CNhs11255	COAD; READ
CNhs11252	ESCA
CNhs11889	HNSC
CNhs10732	HNSC
CNhs10752	HNSC
CNhs11287	HNSC
CNhs11717	HNSC
CNhs11810	HNSC
CNhs11849	HNSC
CNhs11892	KICH; KIRP; KIRC
CNhs11728	KICH; KIRP; KIRC
CNhs10729	KICH; KIRP; KIRC
CNhs11257	KICH; KIRP; KIRC

CNhs13053	LAML
CNhs13054	LAML
CNhs13502	LAML
CNhs13052	LAML
CNhs11864	LAML
CNhs13055	LAML
CNhs13503	LAML
CNhs13504	LAML
CNhs13056	LAML
CNhs13057	LAML
CNhs13050	LAML
CNhs13051	LAML
CNhs10722	LAML
CNhs10723	LAML
CNhs10724	LAML
CNhs13058	LAML
CNhs13059	LAML
CNhs13060	LAML
CNhs13505	LAML
CNhs13049	LAML
CNhs11888	LAML
CNhs11843	LAML
CNhs10742	LGG; GBM
CNhs11846	LGG; GBM
CNhs11185	LGG; GBM
CNhs11248	LGG; GBM
CNhs11272	LGG; GBM
CNhs10731	LGG; GBM
CNhs12805	LGG; GBM
CNhs11861	LGG; GBM
CNhs11276	LGG; GBM
CNhs11284	LGG; GBM
CNhs11818	LGG; GBM
CNhs11811	LGG; GBM
CNhs11868	LIHC
CNhs11742	LIHC
CNhs12328	LIHC
CNhs12329	LIHC
CNhs12330	LIHC
CNhs11271	LIHC
CNhs11933	LIHC

CNhs11838	LUAD; LUSC
CNhs11862	LUAD; LUSC
CNhs11840	LUAD; LUSC
CNhs11841	LUAD; LUSC
CNhs11834	LUAD; LUSC
CNhs11274	LUAD; LUSC
CNhs10751	LUAD; LUSC
CNhs11277	LUAD; LUSC
CNhs12806	LUAD; LUSC
CNhs11275	LUAD; LUSC
CNhs10726	LUAD; LUSC
CNhs10625	LUAD; LUSC
CNhs11680	LUAD; LUSC
CNhs11786	LUAD; LUSC
CNhs12808	LUAD; LUSC
CNhs11285	LUAD; LUSC
CNhs12809	LUAD; LUSC
CNhs11812	LUAD; LUSC
CNhs11273	LUAD; LUSC
CNhs11263	MESO
CNhs11264	MESO
CNhs13066	MESO
CNhs13067	MESO
CNhs13068	MESO
CNhs13069	MESO
CNhs13070	MESO
CNhs13072	MESO
CNhs13073	MESO
CNhs13063	MESO
CNhs13062	MESO
CNhs13064	MESO
CNhs13061	MESO
CNhs13074	MESO
CNhs13075	MESO
CNhs11832	PAAD
CNhs11883	PAAD
CNhs11866	PCPG
CNhs11744	PCPG
CNhs11753	PCPG
CNhs11853	PCPG
CNhs11854	PCPG

CNhs11830	PCPG
CNhs11183	PCPG
CNhs11245	PCPG
CNhs10628	PRAD
CNhs11260	PRAD
CNhs11243	PRAD
CNhs11247	SARC
CNhs10728	SARC
CNhs11860	SARC
CNhs11842	SARC
CNhs11848	SARC
CNhs11722	SARC
CNhs11723	SARC
CNhs11724	SARC
CNhs11870	SARC
CNhs11851	SARC
CNhs11729	SARC
CNhs11821	SARC
CNhs11835	SARC
CNhs11279	SARC
CNhs11290	SARC
CNhs11877	SARC
CNhs11269	SARC
CNhs11857	SARC
CNhs11244	SARC
CNhs11281	SKCM
CNhs11254	SKCM
CNhs11882	STAD
CNhs11737	STAD
CNhs11819	STAD
CNhs11286	STAD
CNhs11738	STAD
CNhs10753	STAD
CNhs11270	STAD
CNhs11736	STAD
CNhs11734	STAD
CNhs11884	TGCT
CNhs11876	TGCT
CNhs12351	TGCT
CNhs12362	TGCT
CNhs11726	TGCT

CNhs10745	THCA
CNhs11716	THCA
CNhs11739	THCA
CNhs11872	THCA
CNhs11725	UCS; UCEC
CNhs11747	UCS; UCEC
CNhs11288	UCS; UCEC
CNhs11289	UCS; UCEC
CNhs11930	UCS; UCEC
CNhs11266	UCS; UCEC
CNhs11249	UCS; UCEC
CNhs11748	UCS; UCEC
CNhs11824	UCS; UCEC
CNhs11944	UCS; UCEC

**Supplemental Table 12. Matching GTEx-TCGA samples**

<b>GTEx</b>	<b>TCGA</b>
Adipose Tissue	SARC
Adrenal Gland	ACC
Bladder	BLCA
Blood	LAML
Bone Marrow	LAML
Brain	GBM; LGG
Breast	BRCA
Cervix Uteri	UCEC; UCS
Colon	COAD; READ
Esophagus	ESCA
Kidney	KICH; KIRC; KIRP
Liver	LIHC
Lung	LUAD; LUSC
Muscle	SARC
Nerve	PCPG
Ovary	OV
Pancreas	PAAD
Prostate	PRAD
Salivary Gland	HNSC
Small Intestine	COAD; READ
Stomach	STAD
Testis	TGCT
Thyroid	THCA
Uterus	UCEC; UCS

**Supplemental Table 13. Cross-validation cohorts from Oncomine**

<b>Cohort and test (relative publication follows)</b>	<b>Cluster</b>
1. Diffuse Gastric Adenocarcinoma vs. Normal	Digestive
<i>Cho Gastric, Clin Cancer Res, 2011</i>	Digestive
2. Gastric Adenocarcinoma vs. Normal	Digestive
<i>Cho Gastric, Clin Cancer Res, 2011</i>	Digestive
3. Gastric Intestinal Type Adenocarcinoma vs. Normal	Digestive
<i>Cho Gastric, Clin Cancer Res, 2011</i>	Digestive
4. Gastric Mixed Adenocarcinoma vs. Normal	Digestive
<i>Cho Gastric, Clin Cancer Res, 2011</i>	Digestive
5. Gastric Cancer vs. Normal	Digestive
<i>Cui Gastric, Nucleic Acids Res, 2011</i>	Digestive
6. Diffuse Gastric Adenocarcinoma vs. Normal	Digestive
<i>Deng Gastric, Gut, 2012</i>	Digestive
7. Gastric Adenocarcinoma vs. Normal	Digestive
<i>Deng Gastric, Gut, 2012</i>	Digestive
8. Gastric Cancer vs. Normal	Digestive
<i>Deng Gastric, Gut, 2012</i>	Digestive
9. Gastric Intestinal Type Adenocarcinoma vs. Normal	Digestive
<i>Deng Gastric, Gut, 2012</i>	Digestive
10. Gastric Mixed Adenocarcinoma vs. Normal	Digestive
<i>Deng Gastric, Gut, 2012</i>	Digestive
11. Diffuse Gastric Adenocarcinoma vs. Normal	Digestive
<i>DErrico Gastric, Eur J Cancer, 2009</i>	Digestive
12. Gastric Intestinal Type Adenocarcinoma vs. Normal	Digestive
<i>DErrico Gastric, Eur J Cancer, 2009</i>	Digestive
13. Gastric Mixed Adenocarcinoma vs. Normal	Digestive
<i>DErrico Gastric, Eur J Cancer, 2009</i>	Digestive
14. Rectal Adenocarcinoma vs. Normal	Digestive
<i>Gaedcke Colorectal, Genes Chromosomes Cancer, 2010</i>	Digestive
15. Colorectal Carcinoma vs. Normal	Digestive
<i>Hong Colorectal, Clin Exp Metastasis, 2010</i>	Digestive
16. Esophageal Squamous Cell Carcinoma vs. Normal	Digestive
<i>Hu Esophagus, BMC Genomics, 2010</i>	Digestive
17. Esophageal Squamous Cell Carcinoma vs. Normal	Digestive
<i>Hu Esophagus 2, Cancer Res, 2009</i>	Digestive
18. Cecum Adenocarcinoma vs. Normal	Digestive
<i>Kaiser Colon, Genome Biol, 2007</i>	Digestive
19. Colon Adenocarcinoma vs. Normal	Digestive

<i>Kaiser Colon, Genome Biol, 2007</i>	Digestive
20. Colon Mucinous Adenocarcinoma vs. Normal	Digestive
<i>Kaiser Colon, Genome Biol, 2007</i>	Digestive
21. Rectal Adenocarcinoma vs. Normal	Digestive
<i>Kaiser Colon, Genome Biol, 2007</i>	Digestive
22. Rectal Mucinous Adenocarcinoma vs. Normal	Digestive
<i>Kaiser Colon, Genome Biol, 2007</i>	Digestive
23. Rectosigmoid Adenocarcinoma vs. Normal	Digestive
<i>Kaiser Colon, Genome Biol, 2007</i>	Digestive
24. Barrett's Esophagus vs. Normal	Digestive
<i>Kim Esophagus, PLoS One, 2010</i>	Digestive
25. Esophageal Adenocarcinoma vs. Normal	Digestive
<i>Kim Esophagus, PLoS One, 2010</i>	Digestive
26. Esophageal Adenocarcinoma vs. Normal	Digestive
<i>Kimchi Esophagus, Cancer Res, 2005</i>	Digestive
27. Colon Adenocarcinoma vs. Normal	Digestive
<i>Kurashina Colon, Cancer Sci, 2008</i>	Digestive
28. Colon Mucinous Adenocarcinoma vs. Normal	Digestive
<i>Kurashina Colon, Cancer Sci, 2008</i>	Digestive
29. Rectal Adenocarcinoma vs. Normal	Digestive
<i>Kurashina Colon, Cancer Sci, 2008</i>	Digestive
30. Colon Adenocarcinoma vs. Normal	Digestive
<i>Notterman Colon, Cancer Res, 2001</i>	Digestive
31. Colon Adenoma vs. Normal	Digestive
<i>Sabates-Bellver Colon, Mol Cancer Res, 2007</i>	Digestive
32. Rectal Adenoma vs. Normal	Digestive
<i>Sabates-Bellver Colon, Mol Cancer Res, 2007</i>	Digestive
33. Colorectal Adenocarcinoma vs. Normal	Digestive
<i>Skrzypczak Colorectal, PLoS One, 2010</i>	Digestive
34. Colorectal Carcinoma vs. Normal	Digestive
<i>Skrzypczak Colorectal, PLoS One, 2010</i>	Digestive
35. Colon Adenoma Epithelia vs. Normal	Digestive
<i>Skrzypczak Colorectal 2, PLoS One, 2010</i>	Digestive
36. Colon Adenoma vs. Normal	Digestive
<i>Skrzypczak Colorectal 2, PLoS One, 2010</i>	Digestive
37. Colon Carcinoma Epithelia vs. Normal	Digestive
<i>Skrzypczak Colorectal 2, PLoS One, 2010</i>	Digestive
38. Colon Carcinoma vs. Normal	Digestive
<i>Skrzypczak Colorectal 2, PLoS One, 2010</i>	Digestive
39. Esophageal Squamous Cell Carcinoma vs. Normal	Digestive
<i>Su Esophagus 2, Clin Cancer Res, 2011</i>	Digestive



40. Rectal Adenocarcinoma vs. Normal	Digestive
<i>TCGA Colorectal, No Associated Paper, 2011</i>	Digestive
41. Rectosigmoid Adenocarcinoma vs. Normal	Digestive
<i>TCGA Colorectal, No Associated Paper, 2011</i>	Digestive
42. Cecum Adenocarcinoma vs. Normal	Digestive
<i>TCGA Colorectal 2, No Associated Paper, 2011</i>	Digestive
43. Colon Adenocarcinoma vs. Normal	Digestive
<i>TCGA Colorectal 2, No Associated Paper, 2011</i>	Digestive
44. Colon Mucinous Adenocarcinoma vs. Normal	Digestive
<i>TCGA Colorectal 2, No Associated Paper, 2011</i>	Digestive
45. Rectal Adenocarcinoma vs. Normal	Digestive
<i>TCGA Colorectal 2, No Associated Paper, 2011</i>	Digestive
46. Rectal Mucinous Adenocarcinoma vs. Normal	Digestive
<i>TCGA Colorectal 2, No Associated Paper, 2011</i>	Digestive
47. Rectosigmoid Adenocarcinoma vs. Normal	Digestive
<i>TCGA Colorectal 2, No Associated Paper, 2011</i>	Digestive
48. Diffuse Gastric Adenocarcinoma vs. Normal	Digestive
<i>TCGA Gastric, No Associated Paper, 2013</i>	Digestive
49. Gastric Adenocarcinoma vs. Normal	Digestive
<i>TCGA Gastric, No Associated Paper, 2013</i>	Digestive
50. Gastric Intestinal Type Adenocarcinoma vs. Normal	Digestive
<i>TCGA Gastric, No Associated Paper, 2013</i>	Digestive
51. Gastric Papillary Adenocarcinoma vs. Normal	Digestive
<i>TCGA Gastric, No Associated Paper, 2013</i>	Digestive
52. Gastric Tubular Adenocarcinoma vs. Normal	Digestive
<i>TCGA Gastric, No Associated Paper, 2013</i>	Digestive
53. Mucinous Gastric Adenocarcinoma vs. Normal	Digestive
<i>TCGA Gastric, No Associated Paper, 2013</i>	Digestive
54. Gastric Cancer vs. Normal	Digestive
<i>Wang Gastric, Med Oncol, 2010</i>	Digestive
Lung Adenocarcinoma vs. Normal	Lung
<i>Beer Lung, Nat Med, 2002</i>	Lung
2. Large Cell Lung Carcinoma vs. Normal	Lung
<i>Hou Lung, PLoS One, 2010</i>	Lung
3. Lung Adenocarcinoma vs. Normal	Lung
<i>Hou Lung, PLoS One, 2010</i>	Lung
4. Squamous Cell Lung Carcinoma vs. Normal	Lung
<i>Hou Lung, PLoS One, 2010</i>	Lung
5. Lung Adenocarcinoma vs. Normal	Lung
<i>Landi Lung, PLoS ONE, 2008</i>	Lung
6. Lung Adenocarcinoma vs. Normal	Lung

<i>Okayama Lung, Cancer Res, 2012</i>	Lung
7. Lung Adenocarcinoma vs. Normal	Lung
<i>Selamat Lung, Genome Res, 2012</i>	Lung
8. Lung Adenocarcinoma vs. Normal	Lung
<i>Su Lung, BMC Genomics, 2007</i>	Lung
9. Acinar Lung Adenocarcinoma vs. Normal	Lung
<i>TCGA Lung 2, No Associated Paper, 2012</i>	Lung
10. Lung Adenocarcinoma vs. Normal	Lung
<i>TCGA Lung 2, No Associated Paper, 2012</i>	Lung
11. Lung Adenocarcinoma, Mixed Subtype vs. Normal	Lung
<i>TCGA Lung 2, No Associated Paper, 2012</i>	Lung
12. Lung Mucinous Adenocarcinoma vs. Normal	Lung
<i>TCGA Lung 2, No Associated Paper, 2012</i>	Lung
13. Micropapillary Lung Adenocarcinoma vs. Normal	Lung
<i>TCGA Lung 2, No Associated Paper, 2012</i>	Lung
14. Mucinous Bronchioloalveolar Carcinoma vs. Normal	Lung
<i>TCGA Lung 2, No Associated Paper, 2012</i>	Lung
15. Non-Mucinous Bronchioloalveolar Carcinoma vs. Normal	Lung
<i>TCGA Lung 2, No Associated Paper, 2012</i>	Lung
16. Squamous Cell Lung Carcinoma vs. Normal	Lung
<i>TCGA Lung 2, No Associated Paper, 2012</i>	Lung
17. Squamous Cell Lung Carcinoma, Basaloid Variant vs. Normal	Lung
<i>TCGA Lung 2, No Associated Paper, 2012</i>	Lung
18. Squamous Cell Lung Carcinoma vs. Normal	Lung
<i>Wachi Lung, Bioinformatics, 2005</i>	Lung
19. Lung Adenocarcinoma vs. Normal	Lung
<i>Weiss Lung, Sci Transl Med, 2010</i>	Lung
20. Squamous Cell Lung Carcinoma vs. Normal	Lung
<i>Weiss Lung, Sci Transl Med, 2010</i>	Lung
2. Anaplastic Astrocytoma vs. Normal	Brain
<i>Beroukhim Brain, Proc Natl Acad Sci U S A, 2007</i>	Brain
3. Anaplastic Oligodendroglioma vs. Normal	Brain
<i>Beroukhim Brain, Proc Natl Acad Sci U S A, 2007</i>	Brain
4. Primary Glioblastoma vs. Normal	Brain
<i>Beroukhim Brain, Proc Natl Acad Sci U S A, 2007</i>	Brain
5. Secondary Glioblastoma vs. Normal	Brain
<i>Beroukhim Brain, Proc Natl Acad Sci U S A, 2007</i>	Brain
6. Anaplastic Oligoastrocytoma vs. Normal	Brain
<i>Bredel Brain 2, Cancer Res, 2005</i>	Brain
7. Anaplastic Oligodendroglioma vs. Normal	Brain
<i>Bredel Brain 2, Cancer Res, 2005</i>	Brain

8. Glioblastoma vs. Normal	Brain
<i>Bredel Brain 2, Cancer Res, 2005</i>	Brain
9. Oligodendroglioma vs. Normal	Brain
<i>Bredel Brain 2, Cancer Res, 2005</i>	Brain
10. Anaplastic Oligoastrocytoma vs. Normal	Brain
<i>French Brain, Cancer Res, 2006</i>	Brain
11. Anaplastic Oligodendroglioma vs. Normal	Brain
<i>French Brain, Cancer Res, 2006</i>	Brain
12. Pilocytic Astrocytoma vs. Normal	Brain
<i>Gutmann Brain, Cancer Res, 2002</i>	Brain
17. Glioblastoma vs. Normal	Brain
<i>Lee Brain, Cancer Cell, 2006</i>	Brain
18. Glioblastoma vs. Normal	Brain
<i>Liang Brain, Proc Natl Acad Sci U S A, 2005</i>	Brain
19. Oligoastrocytoma vs. Normal	Brain
<i>Liang Brain, Proc Natl Acad Sci U S A, 2005</i>	Brain
20. Glioblastoma vs. Normal	Brain
<i>Murat Brain, J Clin Oncol, 2008</i>	Brain
23. Astrocytoma vs. Normal	Brain
<i>Shai Brain, Oncogene, 2003</i>	Brain
24. Glioblastoma vs. Normal	Brain
<i>Shai Brain, Oncogene, 2003</i>	Brain
25. Oligodendroglioma vs. Normal	Brain
<i>Shai Brain, Oncogene, 2003</i>	Brain
27. Anaplastic Astrocytoma vs. Normal	Brain
<i>Sun Brain, Cancer Cell, 2006</i>	Brain
28. Diffuse Astrocytoma vs. Normal	Brain
<i>Sun Brain, Cancer Cell, 2006</i>	Brain
29. Glioblastoma vs. Normal	Brain
<i>Sun Brain, Cancer Cell, 2006</i>	Brain
30. Oligodendroglioma vs. Normal	Brain
<i>Sun Brain, Cancer Cell, 2006</i>	Brain
31. Brain Glioblastoma vs. Normal	Brain
<i>TCGA Brain, No Associated Paper, 2013</i>	Brain
32. Glioblastoma vs. Normal	Brain
<i>TCGA Brain, No Associated Paper, 2013</i>	Brain
33. Brain Astrocytoma vs. Normal	Brain
<i>TCGA Brain 2, No Associated Paper, 2013</i>	Brain
34. Brain Glioblastoma vs. Normal	Brain
<i>TCGA Brain 2, No Associated Paper, 2013</i>	Brain
35. Brain Oligodendroglioma vs. Normal	Brain

<i>TCGA Brain 2, No Associated Paper, 2013</i>	Brain
36. Glioblastoma vs. Normal	Brain
<i>TCGA Brain 2, No Associated Paper, 2013</i>	Brain
37. Malignant Glioma, NOS vs. Normal	Brain
<i>TCGA Brain 2, No Associated Paper, 2013</i>	Brain
38. Oligoastrocytoma vs. Normal	Brain
<i>TCGA Brain 2, No Associated Paper, 2013</i>	Brain
1. Cervical Squamous Cell Carcinoma vs. Normal	Ovary-Uterine
<i>Biewenga Cervix, Gynecol Oncol, 2008</i>	Ovary-Uterine
2. Ovarian Clear Cell Adenocarcinoma vs. Normal	Ovary-Uterine
<i>Lu Ovarian, Clin Cancer Res, 2004</i>	Ovary-Uterine
3. Ovarian Endometrioid Adenocarcinoma vs. Normal	Ovary-Uterine
<i>Lu Ovarian, Clin Cancer Res, 2004</i>	Ovary-Uterine
4. Ovarian Mucinous Adenocarcinoma vs. Normal	Ovary-Uterine
<i>Lu Ovarian, Clin Cancer Res, 2004</i>	Ovary-Uterine
5. Ovarian Serous Adenocarcinoma vs. Normal	Ovary-Uterine
<i>Lu Ovarian, Clin Cancer Res, 2004</i>	Ovary-Uterine
6. Cervical Cancer vs. Normal	Ovary-Uterine
<i>Pyeon Multi-cancer, Cancer Res, 2007</i>	Ovary-Uterine
7. Cervical Adenocarcinoma vs. Normal	Ovary-Uterine
<i>Scotto Cervix, Genes Chromosomes Cancer, 2008</i>	Ovary-Uterine
8. Cervical Squamous Cell Carcinoma vs. Normal	Ovary-Uterine
<i>Scotto Cervix, Genes Chromosomes Cancer, 2008</i>	Ovary-Uterine
9. Cervical Keratinizing Squamous Cell Carcinoma vs. Normal	Ovary-Uterine
<i>TCGA Cervix, No Associated Paper, 2012</i>	Ovary-Uterine
10. Cervical Non-Keratinizing Squamous Cell Carcinoma vs. Normal	Ovary-Uterine
<i>TCGA Cervix, No Associated Paper, 2012</i>	Ovary-Uterine
11. Cervical Squamous Cell Carcinoma vs. Normal	Ovary-Uterine
<i>TCGA Cervix, No Associated Paper, 2012</i>	Ovary-Uterine
12. Ovarian Serous Cystadenocarcinoma vs. Normal	Ovary-Uterine
<i>TCGA Ovarian 2, No Associated Paper, 2013</i>	Ovary-Uterine
13. Ovarian Serous Adenocarcinoma vs. Normal	Ovary-Uterine
<i>Yoshihara Ovarian, Cancer Sci, 2009</i>	Ovary-Uterine

**Supplemental Table 14. Nomenclature match – The Cancer Genome Atlas (TCGA) and The Human Protein Atlas (THPA)**

<b>TCGA nomenclature</b>	<b>THPA nomenclature</b>
BLCA	urothelial cancer
BRCA	breast cancer
CESC	cervical cancer
COAD	colorectal cancer
HNSC	head and neck cancer
KICH	renal cancer
KIRC	renal cancer
KIRP	renal cancer
GBM	glioma
LGG	glioma
LIHC	liver cancer
LUAD	lung cancer
LUSC	lung cancer
OV	ovarian cancer
PAAD	pancreatic cancer
PRAD	prostate cancer
READ	colorectal cancer
SKCM	melanoma
STAD	stomach cancer
TGCT	testis cancer
THCA	thyroid cancer
UCEC	endometrial cancer