## Supplemental Figure 1

OX40-status defines a mature pDC population that drives antigen-specific autologous CD8+ T cell responses. (**a**) OX40 expression on intratumoral pDC from HPV-positive (n= 43) and HPV-negative (n= 46) HNSCC patients. (**b**) Sorted pDC from dLNneg from HNSCC patients (n= 5) were incubated overnight and measured by flow cytometry for expression of CD40, CD80 and CD86 on pDC subsets. (**c**) Expression of OX40 measured on whole pDC from dLNneg from HNSCC patients (n=8) after overnight incubation in culture media alone (unstimulated) or in presence of IL-2, CpG or Resiquimod. (**d**) FACS gating strategy for sorting harvested autologous HLA-DR+HLA-A2+ monocyte-derived dendritic cells (mDC) for use in autologous antigen-specific co-culture assays (Methods). OX40 and OX40(L) expression levels were also measured. (**e**) CD8+ T cell positivity for granzyme B (GzB) after co-culture with peptide-loaded mDC without pDC (control) or with

OX40$_+$ or OX40$_{lo/-}$ pDC from the TME vs. non-TME (dLN$_{neg}$) (n= 5). (**f-g**) Percentage of CD8$_+$ T cells positive for GzB and IFN-γ after co-culture with tumor-associated antigen peptide-loaded mDC and with or without autologous OX40$_+$ or OX40$_{lo/-}$ pDC from tumor or dLN$_{neg}$ from HNSCC patients (n= 11).

One-way ANOVA followed by Tukey's post hoc test (b-c, e-g). Two-tailed paired T test (a). Bar graph data are mean ± s.e.m. Middle line of box-and-whisker plot indicates the median, box limits indicate the first and third quartiles, and 'whiskers' indicate 'extreme' for all data points (a, c, e-f). **$P < 0.01$. Representative flow plots are shown (f).

Supplemental Figure 2
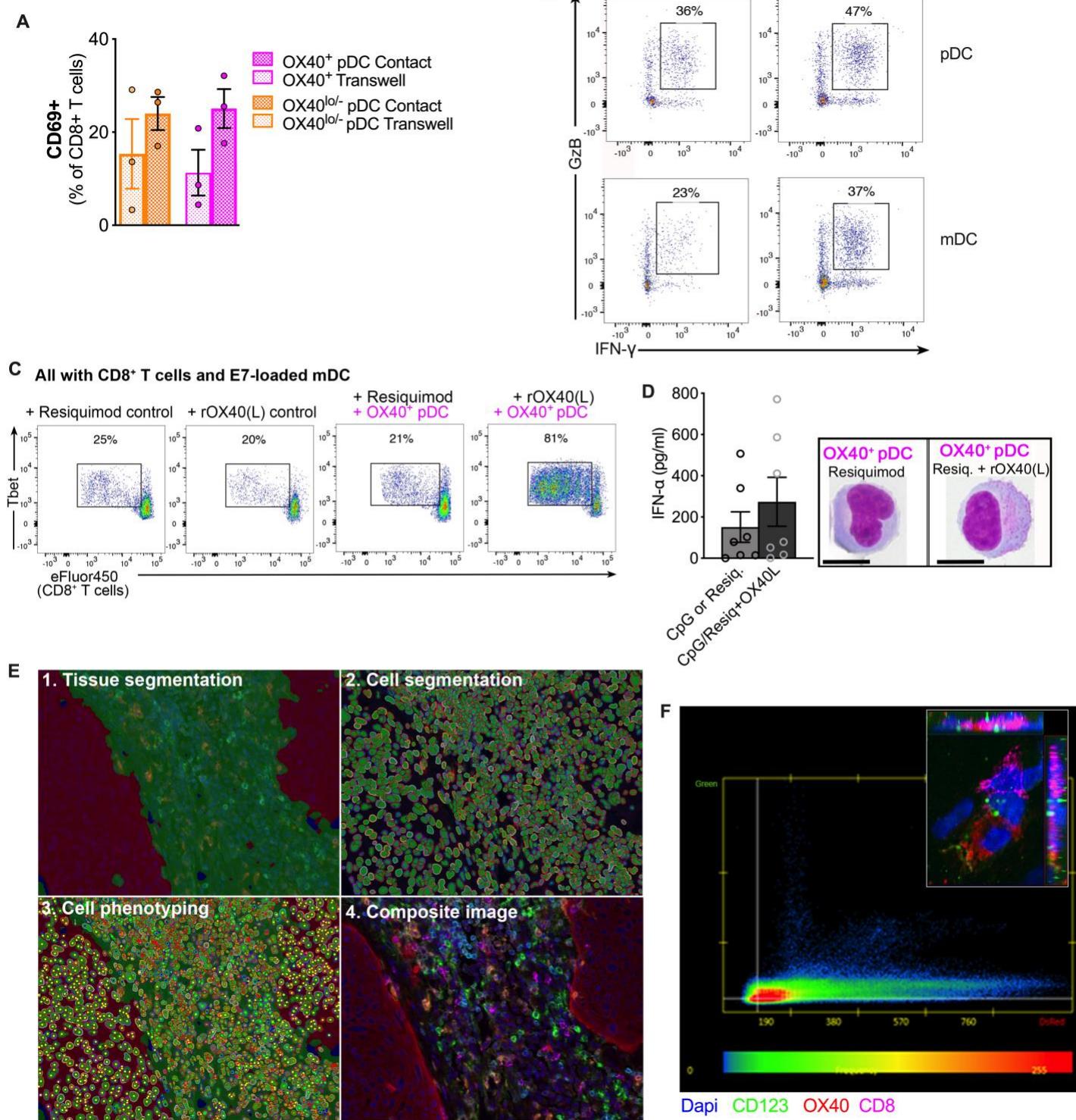
The effect of OX40-ligation on pDC morphology, IFN-α secretion and immunostimulatory capacity.
(**a**) Percentage of activated (CD69+) CD8+ T cells in transwell vs. contact co-culture with pDC subsets (n= 3).
(**b**) The production of granzyme B (GzB) and IFN-γ by E7-specific CD8+ T cells co-cultured with autologous
pDC and mDC without or with prior loading with HPV E7 peptide. (**c**) Tbet expression on proliferating antigen-
specific (eFluor450-low) CD8+ T cells from autologous co-culture with peptide-loaded monocyte-derived
dendritic cells (mDC) and with OX40+ pDC pre-stimulated with either Resiquimod or rOX40(L). (**d**) The
concentration (pg/ml) of IFN-α in the supernatant from OX40+ pDC from HNSCC patients (n= 7) stimulated
with either CpG or Resiquimod or combination treatment of either CpG or Resiquimod with recombinant
OX40(L) [rOX40(L)]. Data normalized to 2×10^3 pDC per sample. May-Grunwald staining of FACS-sorted
OX40+ pDC from the TME of a patient, stimulated with either Resiquimod alone or Resiquimod with

rOX40(L). n= 3; three experimental repeats. 100× magnification, scale bar, 5 μm. (**e**) Example of image analysis workflow in inForm 2.1 (Akoya Biosciences) software. Following spectral unmixing, single images were segmented according to tissue type (i.e. tumor and stroma) followed by cell segmentation based on a proprietary inForm active learning phenotyping algorithm. Cells were then phenotyped in inForm into one of three different types according to the markers of interest: tumor cells (panCK+), CD8+ T cells (CD3+CD8+), pDC (CD3-CD123+), macrophages (CD68+) and 'other cells' (panCK-CD68- CD8-CD123-). (**f**) Colocalization of OX40 (red) with CD123 (green) signals shown as a two-dimensional scatter plot of signal intensities (red on X-axis, green on Y-axis) from a CD123+ cell adjacent to a CD8+ cell (inset: three-dimensional x-y-z plot), from the tissue section of the TME from a HNSCC patient.

One-way ANOVA followed by Tukey's post hoc test (a) and Two-tailed paired T-test (d). Bar graph data are mean ± s.e.m

Supplemental Figure 3

Transcriptomes of pDC in HNSCC based on TME- and OX40-status.

a-g: Bulk RNA sequencing was performed on cell-sorted pDC, including OX40+ and OX40lo/- pDC, from the TME and non-TME in HNSCC patients, including analysis restricted to HPV-positive (HPVp) patients (n= 4). Differentially expressed genes (DEG) were determined using the criterion of fold-changes (FC) ≥ 1.5. (**a**) Expression of *TCF4*, *IRF8*, *CD3e* and *Siglec6* in OX40+ and OX40lo/- pDC from HNSCC patients (n= 7) (**Supplemental Table 2**). (**b**) Ingenuity pathway analysis (IPA)-generated canonical pathway analysis of top enriched pathways (-log (p-value) >2.0) in HPVp OX40+ pDC. (**c**) Gene set enrichment analysis (GSEA) plots of oxidative phosphorylation-related gene pathways enriched in HPVp OX40+ pDC with normalized enrichment scores (NES) and false discovery rates (FDR). (**d**) Pie chart of the top enriched-pathways (p < 0.05) generated by enriched gene set analysis (KEGG and Reactome) of DEG from OX40+ and OX40lo/- pDC from all patients (n= 7). (**e**) Heat map reporting relative expression (log2 values) in rows of DEG (**Supplemental Table 4**) in pDC across primary tumors from HPVp patients, labeled as HPVp TME (n= 3) and matched non-TME tissue (dLNneg/PBMC, n= 7 including some patient duplicates). Heat map color scheme is based on log2 FC expression levels from -2 (blue) to 2 (red). Color bars in right margin highlight five main gene clusters, with their corresponding labels 1-5, according to their gene expression states. Labeling in left margin highlights annotation of clusters with notable pathways (KEGG). (**f**) Expression of chemokine receptor/ligand genes

upregulated in TME pDC from HNSCC patients. (**g**) Expression of common lymphoid progenitor and common dendritic cell progenitor lineage genes upregulated in TME pDC.

Unpaired Student's T test (a). Middle line of box-and-whisker plot indicates the median, box limits indicate the first and third quartiles, and 'whiskers' indicate 'extreme' for all data points. IPA ratios/Z-scores in Source Data 2.

OX40+ pDC correlate to survival and slower tumor growth.

Supplemental Figure 4

A Mouse pDC gating strategy

B
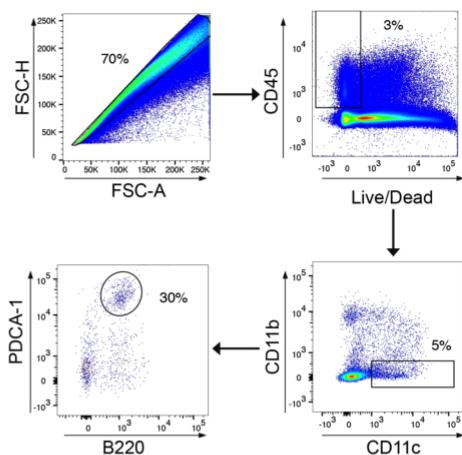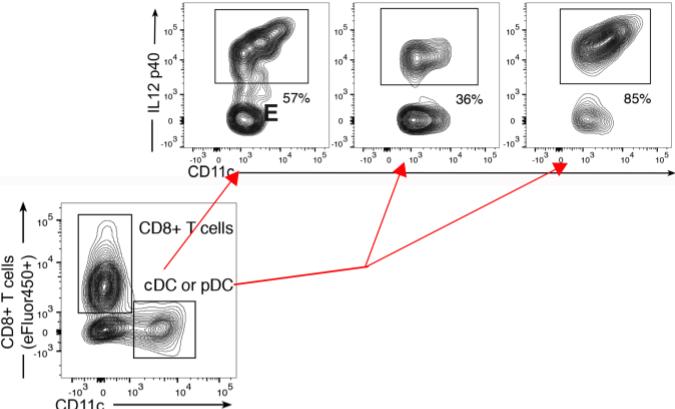
C All with CD8+ T cell and gp100-loaded

D

E
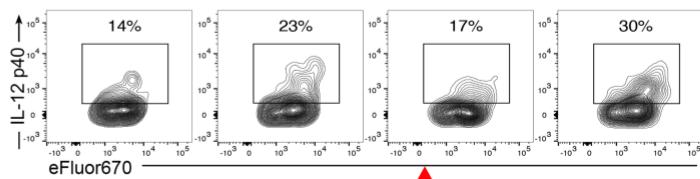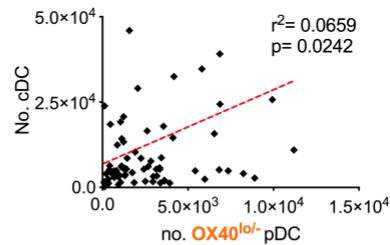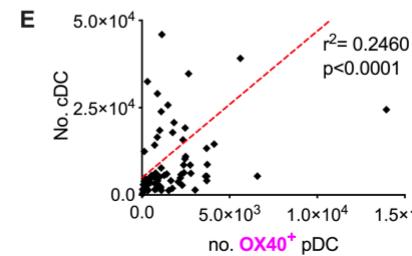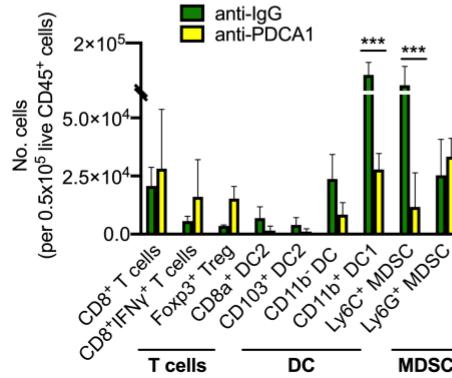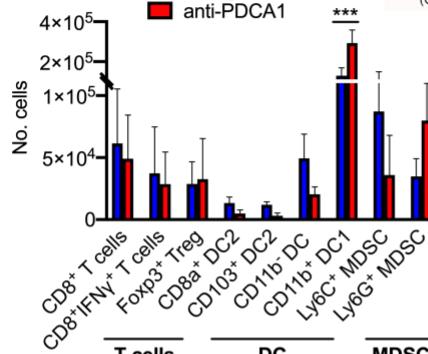
F Ly6G+ MDSC
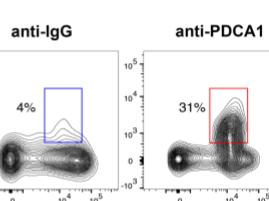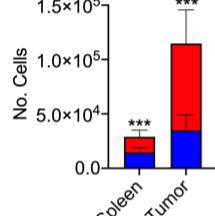
G B16-CCR7 + anti-IgG   B16-CCR7 + anti-PDCA1
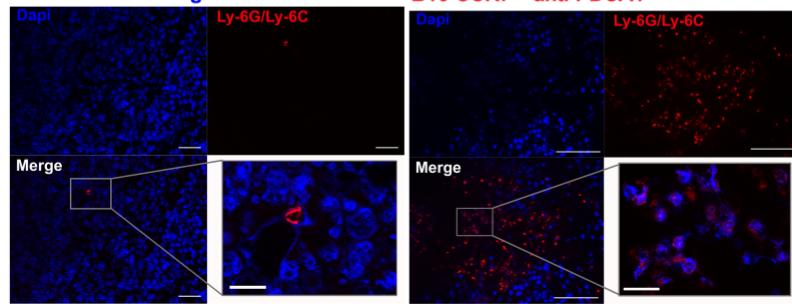
(**a**) Murine tumor pDC gating strategy. Live singlets were first selected using FSC-H and FSC-A and CD45$_+$ live/dead viability stain. pDC were then gated from CD11c$_{mod}$CD11b$_{neg}$ cells as PDCA1$_+$B220$_+$. (**b**) Flow plots of IL-12 p40 production by either cDC (from WT B6 mice) and pDC (from dLN of B16-F10- or B16CCR7-bearing mice) co-cultured with Pmel-1 CD8$_+$ T cells. n= 2; two experimental repeats. (**c**) Flow plots of IL-12 p40 production by cDC when co-cultured with Pmel-1 CD8$_+$ T cells and pDC from B16CCR7-bearing mice pre-stimulated with Resiquimod and OX86. (**d**) Number of different immune cell populations in TME of either B16-F10- or B16CCR7-bearing mice treated with either anti-PDCA1 or anti-polyclonal IgG. Data are pooled from individual experiments and normalized to 5×10^5 live cells. (**e**) Correlation (Pearson) of cDC and either OX40$_+$ or OX40$_{lo/-}$ pDC numbers (all normalized to 1×10^6 live cells) in the TME of HNSCC patients (n= 77). A line of best fit is shown. (**f**) Quantification of granulocytic myeloid-derived suppressor cells (MDSC) (CD11b$_+$Ly6G-Ly6C$_+$) in the tumor and spleen from B16CCR7-bearing mice treated with either pDC-depleting antibody (anti-PDCA1) or anti-polyclonal IgG (control). Corresponding flow plots show Ly6G$_+$ (granulocytic) and Ly6C$_+$ (monocytic) MDSC in pDC-depleted (red gate) and control (blue gate) mice. (**g**) Immunofluorescence microscopy of Ly-6G/Ly-6C MDSC in B16CCR7-bearing mice treated with either anti-polyclonal IgG antibody (control) or anti-PDCA1 pDC depleting antibody. Top (anti-IgG): 10×, scale bar 50 μm and 40×, scale bar 20 μm (inset); Bottom (anti-PDCA1): 20×, scale bar 50 μm and 40×, scale bar 20 μm (inset). Red, Ly-6G/Ly-6C; blue, Dapi.

One-way ANOVA followed by Tukey's post hoc test (d, f). Bar graph data are mean ± s.e.m. ***$P < 0.001$.

Supplemental Table 1: Study patient samples and downstream applications

Patient	Age/Sex	TNM* Stage	HPV	1° Site	1° Site Collected	LN Collected	PBMC Collected	Monocyte Expansion†	Flow Cytometric Phenotyping	FACS sort	ELISA/Luminex	Co-culture	RNA-seq	IF	IHC‡
NMH01	63/M	T4N0	+	Tonsil	Y	R level 2A	N								
NMH02	67/M	T3N1	+	Tonsil	Y	R level 3	N								
NMH03	64/M	T1N1	+	BOT	N	R level 2A	N								
NMH04	59/M	T1N1	+	Tonsil	N	L level 2A	N								
NMH05	57/M	T2N1	+	BOT	N	L level 2A,4	N								
NMH06	70/M	T1N3	+	Tonsil	N	R level 2A	N								
NMH07	75/M	T1N1	+	BOT	Y	L level 2B,3	N								
NMH08	63/M	T1N1	+	Tonsil	N	R level 2A,4	N								
NMH09	65/M	T2N1	+	Tonsil	Y	R level 2A,3	N								
NMH10	72/M	T2N1	+	BOT	Y	N/A	Y								
NMH11	71/M	T2N2	+	Tonsil	Y	R level 2A L level 4	Y								
NMH12	57/M	T1N1	+	Tonsil	N	R level 2A,4	Y								
NMH13	41/M	T1N1	+	Tonsil	N	L level 2A,4	N								
NMH14	63/M	T2N1	+	BOT	Y	R level 2A,3	Y								
NMH15	63/M	T2N1	+	BOT	N	R level 2A,4	N								
NMH16	51/M	T1N1	+	BOT	N	R level 2A,3	Y								
NMH17	75/M	T1N1	+	BOT		R level 2A L level 2A									
NMH18	54/M	T2N0	+	BOT	Y	R level 4	N								
NMH19	45/M	T3N1	+	Tonsil	Y	R level 2A,4	Y								
NMH20	56/M	T1N1	+	BOT	N	R level 2A,4	N								
NMH21	70/M	T1N2	+	BOT	N	R level 2A L level 2A	Y								
NMH22	65/M	T2N1	+	Tonsil	Y	N/A	Y								
NMH23	50/M	T2N1	+	Tonsil	Y	R level 2A,4	Y								
NMH24	50/F	T2N1	+	BOT	Y	L level 2A,3	Y								
NMH25	71/M	T2N1	+	Tonsil	Y	L neck contents	N								
NMH26	67/M	T2N1	+	BOT	Y	R level 3,4	Y								
NMH27	48/M	T2N2	+	Tonsil	Y	L level 2A,4	Y								
NMH28	63/M	T1N1	+	Tonsil	N	R level 2A,4	Y								
NMH29	75/M	T2N1	+	Tonsil	N	R level 2A,3	Y								
NMH30	63/M	T2N1	+	BOT	Y	L level 2A,4	N								
NMH31	70/M	T1N1	+	Tonsil	Y	R level 2A	Y								
NMH32	52/M	T2N1	+	BOT	Y	L level 2A	N								
NMH33	61/M	T1N1	+	Tonsil	Y	L level 3	N								
NMH34	71/M	T2N0	+	Tonsil	Y	L level 3	N								
NMH35	61/M	T1N0	+	BOT	Y	L level 3	Y								
NMH36	70/M	T2N0	+	BOT	Y	L level 3	Y								
NMH37	63/M	Tx§N1	+	Unknown primary	N	R neck contents	Y								
NMH38	49/M	T2N1	+	BOT	Y	R level 2A,4	Y								
NMH39	50/M	T1N1	+	BOT	N	R level 2A L level 2A	N								
NMH40	65/M	T2N2	+	Tonsil	N	L level 2	N								
NMH41	65/M	T1N1	+	BOT	N	R level 2A,4	N								
NMH42	66/F	T1N1	+	BOT	N	R level 2A,4	Y								
NMH43	76/M	T2N2	+	Tonsil	Y	R level 2A L level 4	N								
NMH44	70/M	T1N1	+	Tonsil	N	L neck contents	N								
NMH45	45/M	T3N1	+	Tonsil	Y	R level 2A,3	N								
NMH46	67/M	T1N3	+	Tonsil	N	R neck contents	Y								
NMH47	56/M	T2N1	+	Tonsil	N	R level 2A	Y								
NMH48	70/M	T2N1	+	BOT	Y	R level 2A,4	Y								
NMH49	59/M	T3N2	−	Maxilla	N	R level 1B	N								
NMH50	68/M	T2N0	−	Tonsil	Y	L level 2A	N								
NMH51	73/F	T3N2	−	Buccal	N	L level 1B	N								
NMH52	76/F	T1N0	−	Gingiva	Y	N/A	N								
NMH53	65/M	T4N0	−	Larynx	Y	R level 2A	N								
NMH54	60/M	T2N0	−	Oral Tongue	Y	N/A	Y								
NMH55	77/M	TxN2	−	Unknown primary	N	R level 2A,3	Y								
NMH56	60/M	T2N0	−	Buccal	Y	R level 3	Y								
NMH57	67/F	T1N2	−	Oral tongue	Y	L level 3,4	N								
NMH58		T1N0	−	Oral tongue	Y	N/A	Y								
NMH59	76/M	T1N0	−	Oral tongue	Y	N/A	N								
NMH60	65/M	T3N0	−	Oral Tongue	Y	L neck contents	N								
NMH61	82/M	T4N0	−	Mandible	Y	L level 2	Y								
NMH62	78/M	T4N0	−	Mandible	Y	R level 3	Y								
NMH63	74/M	T2N0	−	Oral tongue	Y	R level 3	Y								
NMH64	70/M	T3N3	−	Oral tongue	Y	L neck contents	Y								
NMH65	67/M	T3N2	−	Oral tongue	Y	N/A	Y								
NMH66	79/F	T3N0	−	Oral tongue	Y	N/A	N								

Patient	Age/Sex	TNM* Stage	HPV	1° Site	1° Site Collected	LN Collected	PBMC Collected	Monocyte Expansion†	Flow Cytometric Phenotyping	FACS sort	ELISA/Luminex	Co-culture	RNA-seq	IF	IHC‡
NMH67	66/M	T4N0	–	Larynx	Y	L neck contents	N		×	×		×			
NMH68	36/F	T2N2	–	Oral tongue	Y	N/A	Y	×		×	×	×			
NMH69	56/M	T2N0	–	Oral tongue	Y	N/A	Y			×		×	×		
NMH70	54/M	T3N1	–	Oral tongue	Y	R level 2A	Y			×	×	×			
NMH71	70/M	T3N2	–	BOT	Y	N/A	Y		×	×	×	×			
NMH72	83/F	T4N0	–	FOM	Y	N/A	Y			×	×				
NMH73	56/M	T2N2	–	Oral tongue	Y	L level 2	Y		×	×					
NMH74	35/F	T2N0	–	Oral tongue	N	N/A	Y			×	×				
NMH75	57/M	T2N0	–	FOM	Y	N/A	Y	×		×		×			
NMH76	67/M	T3N0	–	Oral tongue	Y	R neck contents	Y	×		×		×			
NMH77	56/M	T4N3	–	Larynx	Y	L level 2A L level 3	Y	×	×	×	×	×			
NMH78	29/F	T1N3	–	Oral tongue	N	R level 2A,3	Y	×		×		×			
NMH79	49/F	T3N1	–	Oral tongue	Y	L level 4	N		×	×					
NMH80	63/M	T4N0	–	Maxilla	Y	N/A	Y		×	×					
NMH81	65/M	T4N0	–	Larynx	Y	R level 4	Y		×	×			×	×	
NMH82	50/M	T3N2	–	Oral tongue	Y	R level 4	N		×	×					
NMH83	58/F	T2N3	–	Oral tongue	N	R level 2A,3	N		×	×	×				
NMH84	73/M	T1N1	–	FOM	N	L level 1B	N			×	×				
NMH85	84/M	T3N0	–	Oral tongue	Y	N/A	Y		×	×					
NMH86	60/M	T4N3	–	Oral tongue	N	L level 3 R level 4	N		×	×					
NMH87	57/M	T4N1	–	Hypopharynx	N	R level 3,4	N		×	×					
NMH88	59/M	T4N3	–	Mandible	N	R level 3 L level 3			×	×		×			
NMH89	77/M	T1N0	–	Oral tongue	Y	N/A	Y			×			×		
NMH90	72/M	T1N1	–	Mandible	N	R level 1b			×	×					
NMH91	69/M	T4N0	–	Larynx	Y	R level 2	N		×	×					
NMH92	77/M	T1N0	–	Oral mucosa	Y	N/A	Y		×	×					
NMH93	25/M	T4N3	–	Oral tongue	N	L level 2A R level 3			×	×					
NMH94	59/M	T4N3	–	Lip	N	L level 1b R level 1b	Y		×	×		×			
NMH95	77/M	T2N0	–	Scalp	N	Left neck contents	N		×						
NMH96	65/M	T3N0	–	Oral tongue	Y	Left neck contents	N		×	×					
NMH97	47/M	T2N2	–	BOT	Y	R level 2A,4	Y		×		×				
NMH98	78/M	T1N0	–	Mandible	Y	N/A	Y		×		×				
NMH99	58/M	T3N3	–	Larynx	N	N/A	Y		×		×				
NMH100	56/M	T4N2	–	Mandible	N	R level 3	Y		×	×	×		×		
NMH101	76/M	T4N2	–	Larynx	N	R level 2A,3	N		×						
NMH102	62/M	T3N0	–	Larynx	Y	L level 3	N		×						

*Tumor-node-metastasis (TNM) staging according to the AJCC Staging Manual (Eighth edition); †Monocytes obtained from patient pre-operative blood and differentiated into monocyte-derived dendritic cell (mDC) (Methods); ‡Seven-plex immunohistochemistry (IHC) using the Vectra Polaris platform (Akoya Biosciences). §Primary tumor cannot be staged (unknown primary). HPV = Human Papillomavirus; 1° = primary tumor; LN = lymph node; PBMC = peripheral blood mononuclear cells; IF = immunofluorescence; M = male; F = female; BOT = base of tongue; FOM = floor of mouth; R = right; L = left; N/A = not applicable.

Supplemental Table 2: HNSCC patient RNA-seq pDC samples

Sample ID	Pt. ID	HPV	Sample details	TME-status	OX40-status[*]
pDC-1	NMH19	+	dLN$_{pos}$	TME	High
pDC-2			dLN$_{neg}$	non-TME	High
pDC-3	NMH61	−	1°[†] (gingiva)	TME	High
pDC-4			PBMC	non-TME	High
pDC-5	NMH69	−	1° (tongue)	TME	Low
pDC-6			dLN$_{neg}$	non-TME	High
pDC-7			dLN$_{neg}$	non-TME	N/A
pDC-8	NMH81	−	dLN$_{neg}$	non-TME	High
pDC-9			dLN$_{neg}$	non-TME	N/A[‡]
pDC-10	NMH29	+	dLN$_{neg}$	non-TME	High
pDC-11			dLN$_{neg}$	non-TME	N/A
pDC-12			dLN$_{pos}$	TME	Low
pDC-13	NMH27	+	dLN$_{neg}$	non-TME	High
pDC-14			1° (tonsil)	TME	N/A
pDC-15			1° (tonsil)	TME	Low
pDC-16	NMH31	+	dLN$_{neg}$	non-TME	N/A
pDC-17			dLN$_{neg}$	non-TME	Low
pDC-18			1° (tonsil)	TME	Low
pDC-19			PBMC	non-TME	N/A

[*]Determined at the time of sorting and based on the gating schemata outlined in Figure S1a; [†]Primary tumor site; [‡]Not-applicable because it represents the whole pDC population and not an OX40 subset. dLN$_{neg}$ = draining cervical lymph node, tumor-negative; dLN$_{pos}$ = draining cervical lymph node, tumor-positive; PBMC = peripheral blood mononuclear cells; TME = tumor microenvironment.

Supplemental Table 3: Upregulated differentially expressed genes in OX40+ pDC grouped according to enriched pathways (KEGG). Genes in each category are listed in order of highest expression levels.

TNFR2 NF-κB pathway*	I. Ribosome/ EIF2 Signaling		II. Oxidative Phosphorylation		III. Detoxification of ROS†		IV. Lysosome		Phagosome		V. FcγR-mediated Phagocytosis		VI. Type I IFN Signaling		TLR‡ Pathway	VII. NK Cell Mediated Cytotoxicity	
LTBR	RPS6KA4	RPS15A	NDUFB3	ATP5I	ABCD1	IDH2	AP1M1	PSAP	ACTB	ACTG1	LYN	PLCG2	NUP93	USP18	TOLLIP	ITGAL	TYROBP
LTB	MRPL41	RPL38	ATP5E	COX17	PRDX5	HSD17B4	AP1S1	NAPSA	RILP	CORO1A	PIK3CD	MAPK3	PIN1	NLRC5	LY96	ITGB2	PTPN6
PSME1	RPL19	MRPL11	NDUFB7	ATP5H	MPV17	ACSL5	ARSB	CTSW	NCF2	CD36	ARPC4	INPP5D	UBE2E1	OAS1	IRAK1	CD48	NCR2
PSMB10	RPL15	RPS25	CYC1	TCIRG1	CRAT	CYBA	LGMN	DNASE2	NCF1	TAP2	PLPP1	SYK	UBE2L6	BST2	MAPK9	PTK2B	HCST
PSMB8	RPS3	RPL30	COX7C	NDUFA4	PMVK	GSTP1	PPT1	GNS	NCF4	SCARB1	PRKCD	VAMP8	UBA7	IFI35	MAP2K6	PPP3CB	FYN
PSMB9	MRPL36	RPS27	ATP5G2	ATP5J2	ACOX3	GPX7	ASAH1	NPC1			ARPC1B	NIPSNAP1			TAB1	FCER1G	SH3BP2
TNFSF12	RPLP1	RPS28	COX7A2L	NDUFA3	GSTK1	TXN2	TPP1	NPC2			RAC2	TRAP1			IRF5	NFATC2	LCP2
TNFSF13B	RPS14	RPL32	ATP5G1	COX8A	CAT	GSS	AP1S2	ARSA			GSN	FLOT1					SELL
DRAP1	RPL11	RPL7	COX5B	NDUFA1		MGST2	NAGA	SUMF1									
	RPL12	RPS29	NDUFB1	NDUFV1			MAN2B1	CTSH									
	RPS27A	RPL9	NDUFB2	ATP5C1			AGA	GGA2									
	MRPL4	RPL8	NDUFS6	IDH3G													
	RPS18	RPL10A	NDUFS4	IDH3A													
	MRPS9	RPS21	NDUFS8	ECH1													
	RPS15	RPS23	COX6B1	MDH2													
	RPS4Y1	RPS24															
	RPS11	RPL27															
	UBA52	MRPS21															
	RPL35	RPS8															
	RPL36	RPS7															
	RPL37	RPL29															
	RPL27A	MRPL24															
	MRPL23	RPL23															
		RPL21															

*TNFR2 non-canonical NF-κB pathway/TNFSF members mediating non-canonical NF-κB pathway; †Detoxification of ROS/Peroxisome/Glutathione metabolism; ‡TLR signaling pathway. ROS = reactive oxygen species; IFN = interferon; TLR = Toll-like receptor; NK = natural killer.

Supplemental Table 4: 4,197 differentially-expressed genes (2,181 upregulated, 2,016 downregulated) for HPVP non-TME compared to TME pDC, mapped as Clusters 1-5.

CLUSTER 1													
DEG	FC (log$_2$)*	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)
LRP5L	-1.07097	CASKIN2	-0.9989	PLEKHD1	-0.9368	FAM129A	-0.8956	DSTN	-0.84393	TOR1AIP2	-0.7996	KCTD17	-0.76603
FAM214B	-1.06955	FAS	-0.9984	JUP	-0.9367	VPS33B	-0.894	TOP1	-0.84354	DDAH2	-0.7991	ZFYVE1	-0.76577
ABCF3	-1.06796	VCPKMT	-0.9981	PTRH2	-0.9362	PTBP2	-0.8932	YY1AP1	-0.84299	UBR7	-0.7991	ZNF354A	-0.76527
PNPLA8	-1.06745	PTTG1	-0.9973	FAM177A1	-0.9357	SLC9A8	-0.8919	HN1	-0.84296	C10orf10	-0.7973	ERMN	-0.7651
TK1	-1.06561	RIMKLB	-0.9958	NDUFS5	-0.9356	ZNF8	-0.8912	ATP6V1F	-0.84205	MMAA	-0.7972	ZNF649	-0.76507
SESTD1	-1.06531	ADCY3	-0.9956	ZSCAN26	-0.9356	FGFR1OP	-0.8905	RAB29	-0.83944	FAM45A	-0.797	PNRC2	-0.76464
TMEM57	-1.06494	PHF1	-0.9939	TRPM4	-0.9356	SLC7A1	-0.8905	FRG1	-0.83784	ZNF195	-0.797	TRAF6	-0.7642
AMZ1	-1.0643	WARS	-0.9924	CSNK1A1	-0.9351	ITPKC	-0.8873	NPHP4	-0.83742	CANT1	-0.7961	FTL	-0.76333
FAM118A	-1.06408	FRMD8	-0.9922	ILF2	-0.9344	INPP1	-0.8871	TERF1	-0.83706	RPS6KB1	-0.7957	GTPBP4	-0.76331
SDCBP	-1.05937	BAG2	-0.992	HARS2	-0.9341	USP11	-0.8869	MRPL50	-0.83698	KLF5	-0.7947	PDIK1L	-0.76323
TVP23A	-1.05906	ZNF687	-0.9891	STAB1	-0.9334	PDCL3	-0.8869	MPHOSPH10	-0.83669	AXIN1	-0.7946	FBRS	-0.76189
TCAF2	-1.05766	RNF10	-0.9876	MAN1A1	-0.9328	CYTH2	-0.8869	RPP38	-0.83623	CDC42BPB	-0.7941	SSSCA1	-0.76168
SOCS5	-1.05662	TRAPPC4	-0.987	TMEM188	-0.9318	MBIP	-0.8866	HGSNAT	-0.83539	MRPL13	-0.7939	FAM131A	-0.76114
SLC35F6	-1.05575	PEX14	-0.9868	PNMA1	-0.9311	LLGL2	-0.885	ZNF100	-0.83531	GRAMD4	-0.7938	ZNF836	-0.76107
ANXA2	-1.05333	GPKOW	-0.9866	HGS	-0.9308	ENY2	-0.8846	THBS1	-0.83471	SYVN1	-0.7935	HBP1	-0.76097
TNFAIP8	-1.05168	ZUFSP	-0.9863	EGFL8	-0.9301	ARSG	-0.8844	ZNF555	-0.83412	C11orf84	-0.7934	RNF24	-0.75978
SWAP70	-1.05158	SLC1A3	-0.9863	ALCAM	-0.9299	PISD	-0.8833	MTF2	-0.8331	TYW5	-0.793	TMF1	-0.75978
ZNF675	-1.05147	SIK3	-0.9846	LGALS1	-0.9292	BCL10	-0.8831	USP31	-0.83307	MICALL2	-0.7914	DNAJA2	-0.75882
TDG	-1.04968	PILRB	-0.9844	RAB34	-0.9287	MAP1S	-0.8803	ZSCAN12	-0.83247	HS3ST1	-0.7906	EIF6	-0.75877
ZER1	-1.0489	PHLDB3	-0.9833	ALDH1L2	-0.9284	SLAMF7	-0.8795	LDOC1L	-0.83244	CARD19	-0.7901	UBE2Z	-0.7584
MAPK6	-1.04613	SLFN5	-0.9828	CCNG1	-0.9272	MED8	-0.8794	LRRC41	-0.83232	HERPUD1	-0.7894	ZNF436	-0.758
DGCR14	-1.04527	CLIP4	-0.9816	WIPI1	-0.9247	ING2	-0.879	UPP1	-0.83158	IRF2BP1	-0.7863	CGRRF1	-0.75789
PUS3	-1.04434	LRRC8C	-0.9805	EIF5A2	-0.9237	SEC61B	-0.8789	BASP1	-0.83157	PPP1CB	-0.7863	CCNC	-0.75687
MTMR6	-1.04401	MOB1B	-0.9802	C1orf216	-0.9232	TUBA1A	-0.8784	SSH1	-0.83153	DYNC1LI1	-0.7863	RPL22L1	-0.75652
STX3	-1.04399	FAM107B	-0.9791	ZNF879	-0.9232	ZNF681	-0.8784	ARL6IP1	-0.83145	NBPF19	-0.7859	DDX24	-0.75618
ANKLE2	-1.04332	C1orf56	-0.9789	ZNF211	-0.922	CD82	-0.8764	MFSD5	-0.82864	TICAM1	-0.7853	BMP8B	-0.75469
ANKRD28	-1.04317	ITGAE	-0.9771	CDK14	-0.9215	TFEC	-0.8757	IPPK	-0.82737	NRBP1	-0.7853	NPIPA5	-0.75457
ZNF773	-1.04315	TIMM22	-0.9754	METTL22	-0.9194	ELOF1	-0.8744	MFSD2A	-0.82711	PPP4R2	-0.7847	CTNND1	-0.75456
ZC3H7A	-1.04275	TBC1D17	-0.9753	EXO5	-0.9174	PGBD1	-0.8738	CIITA	-0.8268	RNF2	-0.7846	CWC15	-0.75363
SEC24A	-1.04216	C1orf50	-0.9748	CTNNA1	-0.9174	ASAP1	-0.8722	RDX	-0.8266	AMER1	-0.7833	SART3	-0.75357
ACTN1	-1.04194	SPAG5	-0.9745	VCP	-0.9173	ZNF155	-0.8697	RAB3IP	-0.82639	DUSP12	-0.7826	NDUFA11	-0.75275
CHMP4B	-1.04117	ZFP1	-0.9743	CLIP2	-0.9165	CFAP45	-0.8695	YES1	-0.8262	INTS5	-0.7826	TPD52L2	-0.7523
BACH2	-1.03981	FGD6	-0.9742	CORO1C	-0.9157	SMCHD1	-0.8692	ENO2	-0.82573	TMEM41B	-0.7817	RNF121	-0.751
GINS4	-1.03966	ZNF639	-0.9726	FAM108C1	-0.9156	SCOC	-0.8682	PQBP1	-0.82559	ZNF260	-0.7814	GNA15	-0.74986
NAA50	-1.03962	MAP3K11	-0.9716	GPX4	-0.9151	TAF1D	-0.8672	MYO1D	-0.82527	CYSTM1	-0.7811	PALB2	-0.74979
EDEM1	-1.03769	CCPG1	-0.9689	SLC9B2	-0.9145	SLC16A3	-0.8652	HAT1	-0.82526	SSBP2	-0.7794	GOLPH3L	-0.74968
CCNB1	-1.03712	C2orf88	-0.9664	ADAP2	-0.9144	TMEM136	-0.8649	SLC36A4	-0.82448	TAB2	-0.7788	EIF5B	-0.74961
WEE1	-1.03515	INF2	-0.9656	POMGNT2	-0.9135	MTMR9	-0.8646	MANF	-0.82446	MRFAP1	-0.7777	TTC33	-0.7491
SAMD12	-1.0338	PAM	-0.9633	MED17	-0.913	CCP110	-0.8641	ZFP36L1	-0.82418	PHYH	-0.777	BAZ1A	-0.74828
CCDC71L	-1.03214	SFXN3	-0.9617	GRAMD1B	-0.9129	SLC15A4	-0.867	WHAMM	-0.82233	ZC3H12A	-0.7768	INSIG1	-0.74767
SLC39A8	-1.03078	CASP2	-0.9611	UBA5	-0.9124	IRGQ	-0.8634	RPS27L	-0.8223	PDE7A	-0.7767	HLA-DRA	-0.74741
TMEM189	-1.02979	G3BP2	-0.9605	LAPTM4A	-0.9122	MCM7	-0.8634	NUP58	-0.82126	TMEM60	-0.7767	ADPRHL2	-0.74733
ZNFX1	-1.02911	KDM5B	-0.9604	RACGAP1	-0.9121	STXBP3	-0.8632	VPS37C	-0.82044	MIER2	-0.7759	MTERF3	-0.74662
ZNF35	-1.02768	HOMEZ	-0.9601	HMGXB4	-0.9117	PRKAR2B	-0.8631	BUD13	-0.81843	SRRT	-0.7755	ZNF581	-0.74592
CD180	-1.02729	ORC6	-0.9575	MED31	-0.9103	C18orf21	-0.8625	TGIF2	-0.81828	SOCS6	-0.7749	TAF5L	-0.74547
MPC2	-1.02679	RHOH	-0.9566	SUOX	-0.9093	GNG5	-0.8624	S100A10	-0.81792	DOLK	-0.7746	SMARCE1	-0.74524
LYST	-1.0253	ACVR2B	-0.9551	PRKCI	-0.9091	PIK3CA	-0.8621	UBXN1	-0.81677	ASL	-0.774	PAK1	-0.74472
THAP3	-1.02483	RPS6KC1	-0.9534	CEBPD	-0.9085	BAK1	-0.8614	HLA-A	-0.81667	GALNT2	-0.7733	LNX2	-0.74386
PHAX	-1.02458	BACH1	-0.9531	SLC3A2	-0.9079	RGS12	-0.8601	TMED7	-0.8157	SOAT1	-0.7729	GAN	-0.74357
ATAT1	-1.02192	LGALS9	-0.9516	ZNF17	-0.9069	TNFAIP1	-0.8599	KIF7	-0.81123	N4BP1	-0.7722	SMG8	-0.74256
USP12	-1.02	NOP58	-0.9513	GCNA	-0.906	DFNB31	-0.8598	HECTD2	-0.8112	CASZ1	-0.772	HOXB2	-0.74181
HIST1H1C	-1.0148	DAPP1	-0.9503	ZNF189	-0.9043	RCC2	-0.8593	LRRC8A	-0.81115	ZSWIM1	-0.7715	KRT5	-0.74121
CASP10	-1.01469	SPAG4	-0.9495	MORF4L2	-0.904	DNAJC12	-0.8589	ACP6	-0.81075	NAP1L3	-0.7713	ZFP3	-0.74114
STARD3NL	-1.01393	TMEM176B	-0.9494	CYB561	-0.9036	RAP1A	-0.8586	SESN2	-0.81032	LMLN	-0.7703	CHSY1	-0.74088
COMMD5	-1.01344	HIST2H2AC	-0.9481	GNLY	-0.9031	KBTBD6	-0.8579	NDUFA6	-0.80923	FOXK1	-0.7702	PDCD10	-0.74058
HPS6	-1.01324	PDGFB	-0.9473	RRAS2	-0.9031	TCTN3	-0.8572	PSMC6	-0.80843	MCMBP	-0.7701	PPP1R8	-0.7402
HOMER2	-1.01323	MSN	-0.9464	SMC4	-0.9027	NUP62	-0.8568	ZNF229	-0.80738	TBC1D23	-0.7698	EED	-0.73986
ARF6	-1.01221	PATL1	-0.9461	DOCK4	-0.9021	PSMA2	-0.8559	FDX1	-0.80556	DNAH17	-0.7695	OTUD5	-0.73953
MAP4K3	-1.01172	RASGRP3	-0.946	CNOT6L	-0.902	WSB1	-0.8556	AKAP6	-0.80489	LIN7B	-0.7695	SIAH1	-0.73932
LUC7L	-1.01159	HLA-F	-0.9452	RNF145	-0.9017	TRAPPC2B	-0.8549	CDC37	-0.80466	RC3H1	-0.7694	ZSCAN22	-0.73916
AK6	-1.01144	CTD-3088G3.8	-0.9446	C2orf47	-0.901	LIMS1	-0.8543	YWHAH	-0.80431	STAG3	-0.7692	MRPL14	-0.7382
SPAG9	-1.01062	FAM102B	-0.9446	HMCES	-0.9004	ZFYVE16	-0.8542	TVP23C	-0.80404	CCDC120	-0.769	FBN1	-0.73792
ELOA	-1.01051	YDJC	-0.9445	DYNLT3	-0.9004	MAPK8	-0.8529	CTNNB1	-0.80394	WDR48	-0.7681	UBQLN4	-0.73781
PI4K2A	-1.00882	GSKIP	-0.944	SIDT1	-0.9	FTH1	-0.8509	ACTR1B	-0.80308	PPP1R3D	-0.768	DDX52	-0.73711
HBS1L	-1.00666	SMAP2	-0.9422	CRY2	-0.8996	TOR3A	-0.8505	GEN1	-0.80304	RPAIN	-0.7678	KIAA1841	-0.73639
INPP5F	-1.00637	DENND5A	-0.9405	SGTB	-0.8995	STRIP1	-0.8505	CEP89	-0.8028	RFFL	-0.7678	SEC61A2	-0.73552
ZNF48	-1.00518	TRO	-0.9402	BTG3	-0.8991	ZNF281	-0.8495	MFAP1	-0.80265	MRPL15	-0.7672	RUNX3	-0.73416
IFT57	-1.0002	ATAD3B	-0.9377	ZNF672	-0.8989	PSMD11	-0.8469	PAK4	-0.80192	KIF20B	-0.7672	SAV1	-0.73402
GPBP1	-0.99984	NOCT	-0.9374	ACTR1A	-0.8989	ENTPD7	-0.8469	PPTC7	-0.80178	ZBTB34	-0.767	ARPP19	-0.73242
CORO7	-0.99957	RAB12	-0.9372	CCNJ	-0.8976	CCDC126	-0.8464	SEL1L	-0.80121	NLRP3	-0.767	SLC10A3	-0.73154
FXYD2	-0.99929	TSPYL1	-0.9368	FLNA	-0.8957	EI24	-0.8445	SEC24D	-0.80071	ANKRD50	-0.7661	ZNF283	-0.73125

CLUSTER 1													
DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)
PKM	-0.72903	TMEM199	-0.695	ZNF823	-0.6594	TUBE1	-0.6251	WDR73	-0.59935	VDAC3	-0.5732	SEC13	-0.54787
ZNF543	-0.72893	GLTP	-0.6944	FH	-0.6593	ATP6V0D1	-0.6249	MAML1	-0.59861	ZBTB45	-0.5725	PSMD5	-0.54781
ENSA	-0.72811	ABL1	-0.6943	EIF2S2	-0.6592	TMEM127	-0.6248	KHDRBS1	-0.59837	NOB1	-0.5725	LAG3	-0.54779
ZNF562	-0.72782	CMC2	-0.6935	ZNF749	-0.6574	COPS2	-0.6247	RBMXL1	-0.5981	CCDC127	-0.5718	HSF2	-0.54755
ZBTB5	-0.7276	GK	-0.693	CINP	-0.6568	MORF4L1	-0.6246	UBQLN2	-0.59787	GOLT1B	-0.5713	OAZ2	-0.54755
PRNP	-0.72734	ZNF430	-0.6924	TXNDC17	-0.6562	VAV2	-0.6245	FZD2	-0.59744	AGPAT6	-0.5713	ZC4H2	-0.54714
SERINC2	-0.72706	MAP1LC3A	-0.692	SPRYD4	-0.6552	TSEN54	-0.6241	SLC25A19	-0.5973	CTD-2568A17.3	-0.5706	ENDOG	-0.54692
FAM110A	-0.72696	HNRNPUL1	-0.6912	CXorf40B	-0.6552	MGRN1	-0.6235	CDC42	-0.59728	PSMD6	-0.5698	ARFIP2	-0.54687
ZC3HC1	-0.72644	PDK1	-0.6896	POP7	-0.6546	MIEF1	-0.6231	KIAA1191	-0.59703	TMUB1	-0.5697	FAM234A	-0.54674
EBLN2	-0.72534	IST1	-0.6894	WDFY1	-0.6545	POLR1C	-0.6217	POC1B	-0.59699	KLF3	-0.5694	UTP3	-0.54669
ZBTB49	-0.72505	CYLD	-0.6881	RNF114	-0.6534	CA5B	-0.6216	NECAP2	-0.59664	CMTM4	-0.568	WIPI2	-0.54649
COPRS	-0.72455	OXSR1	-0.6873	TBC1D25	-0.6532	STX4	-0.621	QSOX1	-0.59649	AEBP2	-0.5676	SS18L2	-0.54635
SDHAF2	-0.72452	HLA-DRB5	-0.6872	GORAB	-0.6525	ZNF674	-0.6201	ZNF552	-0.59622	IMMT	-0.5674	KAT2B	-0.54605
NANS	-0.7242	TEC	-0.6869	CD86	-0.6518	PSMD4	-0.6197	MPST	-0.59609	ZEB2	-0.567	MPV17L2	-0.54552
CENPP	-0.72294	YTHDF3	-0.6866	ZNF550	-0.6517	CCM2	-0.6195	RNF25	-0.59571	SMARCD1	-0.5663	C17orf49	-0.54521
ALDH8A1	-0.7222	LRRC40	-0.6861	PITPNM1	-0.6512	NCOA5	-0.6192	MSTO1	-0.59479	POP1	-0.5658	PGRMC2	-0.54517
GALE	-0.72137	MYOM2	-0.6854	MAP2K3	-0.6511	PI4K2B	-0.6191	ATG4B	-0.59343	TP53BP2	-0.5658	DNAJC25	-0.545
ISCA1	-0.72122	DYNC1I2	-0.6853	ENTPD1	-0.65	ATP2A2	-0.6185	GEMIN2	-0.59335	HMGXB3	-0.5657	DDX39A	-0.54499
MCOLN2	-0.72026	ZNF451	-0.684	FICD	-0.6491	HLA-DQB1	-0.6176	INO80D	-0.59335	FAM189B	-0.5653	RAB22A	-0.54454
PCGF5	-0.71964	SAMD4B	-0.6828	DOT1L	-0.649	CEP76	-0.6171	PLAG1	-0.59334	BET1L	-0.5652	CEP57	-0.54426
MRPL44	-0.71964	MFN1	-0.6817	FBXO33	-0.649	ZNF136	-0.6169	TIPRL	-0.59314	RELA	-0.5651	PML	-0.54411
FAM92A1	-0.71603	STAU1	-0.681	ASNSD1	-0.6483	WDR25	-0.6168	MTFR1	-0.59292	NET1	-0.565	OCRL	-0.54389
TRIP6	-0.71556	MPRIP	-0.6804	TUBB	-0.6473	SLC30A7	-0.6165	B3GNT2	-0.5929	BAG5	-0.5646	PDXK	-0.5438
HLA-G	-0.71474	USP42	-0.6799	SLC17A5	-0.647	CLTA	-0.6165	SETD9	-0.59268	CNOT2	-0.5646	ZNF615	-0.54348
E2F6	-0.7147	ZNF606	-0.6794	UBTD2	-0.6461	RANBP10	-0.6165	TBC1D15	-0.59199	SERAC1	-0.5644	PTPN9	-0.54333
PDE3B	-0.71465	PJA1	-0.6792	SCML1	-0.6456	MGLL	-0.6165	SAP30	-0.59188	FAM127B	-0.564	CNOT6	-0.54308
BRD8	-0.71448	BNIP3L	-0.679	SAR1B	-0.6455	TULP3	-0.6161	PICALM	-0.59183	DDX20	-0.5625	RSPH3	-0.54233
LCAT	-0.71444	DHCR7	-0.6786	CLPX	-0.6455	FAM76B	-0.6159	TXNL1	-0.5918	KLHL36	-0.5625	RAP1B	-0.5423
NRARP	-0.71417	UQCRFS1	-0.6782	SGPP1	-0.6453	LANCL3	-0.6158	MRPL22	-0.59159	ZNF91	-0.5617	PPP1R18	-0.54221
HMGN5	-0.71389	TRIP10	-0.6774	AREL1	-0.6453	PSMD2	-0.6141	SUPT4H1	-0.59122	SPRY1	-0.5616	HIST4H4	-0.54213
MPHOSPH6	-0.71372	ZNF326	-0.677	DSTYK	-0.6446	CCZ1	-0.6136	NT5C3A	-0.591	CCDC12	-0.5616	ERLEC1	-0.54212
UBE2V1	-0.71332	UBE2D1	-0.676	ZC3H10	-0.6442	ACTR3B	-0.6135	UPRT	-0.59096	TSSC4	-0.5613	LILRB4	-0.54204
AKT1S1	-0.71309	GXYLT1	-0.6759	COX7B	-0.643	ELOVL5	-0.6133	SNX22	-0.58954	RAP2C	-0.5608	MTA2	-0.54194
DERL2	-0.71233	RARS	-0.6758	CTNS	-0.6429	RTP5	-0.6132	C11orf57	-0.58929	HECA	-0.5606	MESDC1	-0.54187
RABGGTB	-0.71211	PUM1	-0.6755	MPP1	-0.6417	GPS2	-0.6127	TTF1	-0.58907	SRP54	-0.5598	DHX8	-0.54128
CNOT8	-0.71192	GORASP2	-0.6755	BCKDK	-0.6408	C1orf52	-0.6125	TMEM208	-0.58898	PSMB4	-0.5595	FZD6	-0.54102
SNX33	-0.71161	ZNF737	-0.6749	DAGLB	-0.6405	TXNL4B	-0.6115	DHDDS	-0.5885	FAM83G	-0.5592	PTMA	-0.54096
FBXO45	-0.71119	SPATA2	-0.6748	MGST3	-0.6404	PITRM1	-0.6114	PSMB5	-0.58833	FBXL3	-0.559	DFFA	-0.54015
KIAA1522	-0.71109	GAS8	-0.6745	ABT1	-0.64	RAB18	-0.6112	XRN2	-0.58818	ELF1	-0.559	ARIH2	-0.54001
RSPRY1	-0.71105	PRUNE	-0.6741	RAD21	-0.6397	FKBP14	-0.6111	ZNF180	-0.58791	XAB2	-0.5588	ZNF219	-0.53993
RBMX	-0.71073	TXNDC9	-0.6732	DYNLT1	-0.6389	PITHD1	-0.6106	GRPEL2	-0.58772	AP5Z1	-0.5586	SEC61G	-0.53972
TIMM17A	-0.71066	ABTB2	-0.673	SFMBT1	-0.6388	PAIP2	-0.6102	RAB13	-0.58736	RIOK2	-0.5585	HLA-B	-0.53939
TMC6	-0.71017	ARID4B	-0.6729	EMC8	-0.6381	EIF1AX	-0.6102	IL18RAP	-0.58712	KLHL21	-0.5578	IL2RG	-0.53902
SCD	-0.70955	ADGRD1	-0.6726	ARL14EP	-0.638	STARD4	-0.6102	MANBAL	-0.58623	SLC38A7	-0.5578	CCDC71	-0.53763
ZNF266	-0.70944	43164	-0.6725	CFAP36	-0.638	TOX4	-0.6102	TXNDC15	-0.58608	PRELID3B	-0.5564	FBXL15	-0.53737
KLHL5	-0.70941	SF3B4	-0.6717	PANX1	-0.637	MED4	-0.6098	SFR1	-0.58534	AP3M2	-0.5559	DHX40	-0.53669
MAN2A1	-0.70869	BLOC1S3	-0.6713	SF3B5	-0.6363	RPP40	-0.608	TTC9C	-0.58425	TET2	-0.5548	BIN3	-0.53603
TSPAN14	-0.70789	ATG4A	-0.6708	FNIP1	-0.6363	ZNF202	-0.6079	DCP2	-0.58392	ZNF154	-0.5547	TRMT10C	-0.53552
RQCD1	-0.70757	PSMC4	-0.6707	WRAP53	-0.6351	HLA-C	-0.6078	PIEZO2	-0.58322	CCDC23	-0.5543	NDUFA5	-0.53513
SPTSSA	-0.70727	VPS26A	-0.6704	FBXO8	-0.6348	ABCF2	-0.606	SEC62	-0.58317	PSMA1	-0.554	PLAA	-0.53487
PSMC2	-0.70671	CLIC1	-0.6702	RP11-437B10.1	-0.6344	KPNA5	-0.6059	UNG	-0.5831	NLE1	-0.5529	ISG15	-0.53317
MYO1C	-0.7067	MED21	-0.6688	ATP1B1	-0.6337	KCTD11	-0.6053	POR	-0.58234	RNF8	-0.5527	ADNP2	-0.53313
DNAJC2	-0.70587	CEP85	-0.6678	UBN1	-0.6332	GPR183	-0.6053	FAM104A	-0.58228	GPBP1L1	-0.5521	EFTUD2	-0.53288
ISCU	-0.7053	SMAD4	-0.6676	TIMM23	-0.6328	ZMYM5	-0.6049	ANK3	-0.58216	MRPS2	-0.552	GMPS	-0.53191
SETMAR	-0.70328	USP30	-0.6675	SAMD8	-0.6326	KPNA6	-0.6047	ARHGAP21	-0.58036	LEO1	-0.5518	VAMP3	-0.53188
TP53RK	-0.70293	BMP2K	-0.6667	ZNF557	-0.6326	TCP11L1	-0.6045	PAWR	-0.58036	SLC25A34	-0.5513	HPCAL1	-0.53167
RRBP1	-0.70288	MAP2K1	-0.6662	DYRK1B	-0.6325	CLK4	-0.6038	RIOX1	-0.57979	TXNDC11	-0.5511	CAPZA1	-0.53124
CDK7	-0.70243	TCEAL3	-0.666	UBAP2	-0.6321	JAGN1	-0.6034	HSD17B12	-0.57944	PLPP5	-0.551	CMIP	-0.53102
AGFG1	-0.70168	SURF4	-0.6648	LRRC8B	-0.6312	MGAT4B	-0.6026	PPP1R16B	-0.57931	RNF185	-0.5505	COPB2	-0.53087
PDCL	-0.70059	C6orf47	-0.6647	CHD4	-0.6311	ZNF300	-0.6016	FOXP1	-0.57912	SCYL2	-0.5501	PLA2G4A	-0.53052
KIN	-0.70018	GAK	-0.6642	SH3BP5L	-0.6308	FAM65C	-0.601	PSMD7	-0.57894	ZNF225	-0.55	MRPL12	-0.53045
RABIF	-0.6993	TAGLN	-0.6641	SKP1	-0.6307	CASP6	-0.6008	FLAD1	-0.57871	MSANTD3	-0.5497	SAT2	-0.53043
EMD	-0.69846	CBX1	-0.6641	DCLRE1B	-0.6306	TP53INP1	-0.6002	ANAPC10	-0.57853	RPF1	-0.5497	ORC1	-0.52974
PTP4A2	-0.69802	KIF3A	-0.6637	ZNF711	-0.6296	COPA	-0.6002	DTD1	-0.57704	TAF9B	-0.5496	C8orf41	-0.52962
KBTBD2	-0.69784	FAM103A1	-0.6624	BMPR2	-0.6292	AKAP8L	-0.6002	ARHGAP26	-0.57661	IPO7	-0.5492	IQSEC3	-0.52946
MED7	-0.69774	PRR14	-0.662	LYPLA2	-0.6269	CARS	-0.6001	NBPF1	-0.57543	DNAJC6	-0.5491	FEM1B	-0.529
RIPK2	-0.69757	PRPF39	-0.6608	CCDC174	-0.6266	LSM8	-0.5996	DOCK1	-0.57509	PEX26	-0.5491	SAFB	-0.52889
ASB7	-0.69727	TFG	-0.6607	TSFM	-0.6263	TERF2IP	-0.5996	ZNF707	-0.57393	UBE2Q2	-0.549	GNAI3	-0.5287
UBA6	-0.69636	TARS	-0.6603	STAP1	-0.6257	RBM15B	-0.5995	RNF181	-0.57392	VKORC1	-0.5489	EHD1	-0.5283
ZC3H8	-0.69547	KIF3C	-0.6602	KLHL24	-0.6251	NFKBIB	-0.5994	SELT	-0.57389	CDC26	-0.5486	HNRNPA0	-0.52789
FBXO21	-0.69539	MED9	-0.6598					CCDC130	-0.57328	PCSK7	-0.5479	ALG9	-0.5278

							CLUSTER 1						
DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)
UPK3A	-0.52721	PIK3R6	-0.5084	FBXO42	-0.484	INIP	-0.3657	ACTR10	-0.4289	PPP2R1A	-0.4328	ESPL1	-0.25635
POLD3	-0.52719	PKIG	-0.5083	NDE1	-0.4839	PATJ	-0.3655	SMARCD3	-0.42845	TLE1	-0.431	HIST1H2AL	-0.26759
PDRG1	-0.52675	MFSD12	-0.5078	HIST1H2BN	-0.4832	ATMIN	-0.3653	FAM160A2	-0.42821	TTLL4	-0.4306	MLLT6	-0.26666
SEC22A	-0.52669	MICAL3	-0.5066	SEPSECS	-0.4822	PPP4C	-0.4614	IL10RA	-0.42806	SHOC2	-0.4304	DOCK3	-0.2598
NACC1	-0.52663	TRIM62	-0.5063	CFL2	-0.4813	WARS2	-0.4609	TBC1D10B	-0.4275	GFOD2	-0.4299	CYP2R1	-0.25931
EIF3J	-0.52663	EPT1	-0.5059	LY6G5B	-0.4812	ZMAT2	-0.4609	ICA1L	-0.42748	ZCCHC17	-0.4297	KLHL2	-0.25906
YEATS4	-0.52657	CTDP1	-0.504	TIMP2	-0.481	CEBPG	-0.4608	MYO9B	-0.42703	PSMD1	-0.4291	CCDC66	-0.2556
ZNF85	-0.52645	TOR1B	-0.504	IMPA1	-0.4805	RBM5	-0.4605	SPIN1	-0.42631	TJAP1	-0.3701	CDC42SE2	-0.25404
ZNF486	-0.5261	FAM63A	-0.5036	OTUD4	-0.4804	MTCH1	-0.4603	NDUFB8	-0.42611	RDH10	-0.37	DUS4L	-0.25193
JMJD1C	-0.52604	NSMCE2	-0.5033	NUP88	-0.4803	PRDX6	-0.4593	MINOS1	-0.42516	MFSD6	-0.3695	CHRNA10	-0.24993
TRAFD1	-0.52598	GPATCH3	-0.5031	BCAT1	-0.4801	TOR2A	-0.4592	KPNA1	-0.42457	FUBP1	-0.3658	MYBL2	-0.24931
TRIM13	-0.52587	LINS1	-0.5031	PARL	-0.4799	PROSER2	-0.4584	BTBD10	-0.42405	PGM2L1	-0.3652	ZFP69	-0.24468
RSBN1	-0.52585	EIF5A	-0.5022	ZNF586	-0.4798	GMFB	-0.4583	ABHD6	-0.42204	GPATCH2L	-0.365	SPNS2	-0.24026
HARS	-0.52585	GTF2E1	-0.5017	GSPT2	-0.4795	GUCD1	-0.4581	CAPN2	-0.42171	WASL	-0.3623	ARID5A	-0.23896
C11orf95	-0.52527	HIF1AN	-0.501	TFRC	-0.4794	N4BP2L1	-0.4577	RREB1	-0.42069	PRMT1	-0.361	DCUN1D4	-0.23803
MAPK7	-0.5251	WDR13	-0.5007	RELN	-0.4793	IMP3	-0.4575	ILKAP	-0.41947	KLHL20	-0.3587	TG	-0.2365
TIGAR	-0.52427	YOD1	-0.5006	EMSY	-0.4791	TGS1	-0.4574	PCDH9	-0.41871	CCNG2	-0.3583	PPFIBP2	-0.22931
BAP1	-0.52419	MUL1	-0.5002	PSME4	-0.479	IGHMBP2	-0.456	ZNF16	-0.41821	NEDD1	-0.3569	PLCH2	-0.22722
MFSD9	-0.5241	CDH1	-0.5	NFIC	-0.4789	UBE2R2	-0.4553	ESCO1	-0.4182	PUF60	-0.3567	HSPA1B	-0.2253
VDAC1	-0.52348	HINFP	-0.5	RAPGEF2	-0.4788	RHOG	-0.4552	EGLN3	-0.41809	SDHAF1	-0.3561	ERBB2	-0.22314
C1orf122	-0.52291	THAP4	-0.4999	CLMN	-0.4787	RP3-329A5.4	-0.4549	UBXN7	-0.41672	TRAK2	-0.3559	CSTB	-0.22103
LARP4	-0.52283	MYL6	-0.4998	DONSON	-0.4786	BLOC1S2	-0.4545	ZNF7	-0.4166	UBR4	-0.3547	ZNF217	-0.21986
TEX30	-0.52215	NUBP1	-0.4998	SOS2	-0.4776	ARL13B	-0.454	KIAA0895L	-0.41646	ZNF253	-0.3545	CDC6	-0.21468
CACNA1F	-0.52183	RAB11FIP4	-0.4997	TMPPE	-0.4769	MYEF2	-0.4538	NSMF	-0.41514	PRKAA1	-0.3542	C17orf107	-0.19783
ABCE1	-0.52176	DIP2C	-0.4995	CCZ1B	-0.4769	ZFP91	-0.4536	COG1	-0.41246	TMEM214	-0.3533	ITSN1	-0.18778
ARID3B	-0.52035	COPB1	-0.4994	PPP2CB	-0.4762	MBD4	-0.4534	CSNK2B	-0.41123	AKT3	-0.3533	CSRP1	-0.18564
ABCA5	-0.51985	EBP	-0.4984	EYA3	-0.476	C12orf29	-0.4527	ELP5	-0.40984	PANK3	-0.3514	CACNB4	-0.18125
LIN9	-0.5198	TINAGL1	-0.4976	NCAPD3	-0.4755	NRXN2	-0.4515	BAG4	-0.4083	NOL4L	-0.3498	MRPL54	-0.17919
TOE1	-0.51978	C12orf65	-0.4971	SIGLEC10	-0.4753	C14orf119	-0.4514	UNC45A	-0.40788	SACM1L	-0.3468	RC3H2	-0.1779
RALGAPA1	-0.51949	BFAR	-0.4971	NPLOC4	-0.4751	ZNF805	-0.4512	ATP5G3	-0.40518	ODF3B	-0.3457	RNF144A	-0.17497
OTUD3	-0.51941	PHTF1	-0.497	MATR3	-0.4744	FBXL19	-0.4501	ANXA11	-0.40458	C8orf76	-0.3452	ZNF671	-0.17326
FBXW11	-0.51935	IFI16	-0.4963	STK35	-0.4738	ZNF706	-0.4491	G2E3	-0.40405	HLA-DMA	-0.344	PLXDC2	-0.16996
GNB4	-0.5192	RABAC1	-0.4961	SLC35E4	-0.4737	SLC26A2	-0.4489	SREBF2	-0.40342	RORA	-0.3432	RNF34	-0.16379
PPIG	-0.51912	FBXO46	-0.4955	HDAC2	-0.4735	DPF2	-0.4487	PCNX4	-0.40322	STARD9	-0.3398	AC109326.1	-0.16361
RNF144B	-0.51897	CERS5	-0.4953	RAB4B	-0.4723	MAGT1	-0.4469	ZNF853	-0.40193	JADE3	-0.3388	AIG1	-0.15333
ZKSCAN8	-0.51844	QPRT	-0.4951	CEP97	-0.4718	AAMP	-0.4463	NAPB	-0.40095	SLC36A1	-0.3376	LRRC3	-0.15235
MAP4K5	-0.5181	RPL36AL	-0.495	PHF10	-0.4713	RAN	-0.4455	TUBA1C	-0.40038	REV3L	-0.3368	CDT1	-0.15141
LUZP1	-0.51803	TTC13	-0.4949	TRIM23	-0.4709	PWP1	-0.4454	POMP	-0.39817	NEU3	-0.3353	RARRES2	-0.14527
DEDD	-0.51747	USP14	-0.4944	ZNF622	-0.4708	FBXO7	-0.4447	CAMKK1	-0.39745	TTN	-0.3352	TRIM39	-0.14523
ST3GAL1	-0.51735	BTG1	-0.4942	ZNF747	-0.4705	CCL3	-0.4437	C14orf156	-0.3972	TMEM44	-0.3315	POLR3B	-0.14168
ZNF616	-0.5172	SGPL1	-0.4941	CHRNB1	-0.4703	ZFAND6	-0.4435	TMEM64	-0.39698	KRTCAP2	-0.3303	NSF	-0.13056
ARPC5L	-0.51652	LDB1	-0.494	ISY1	-0.4701	TRIM68	-0.4431	TTL	-0.39531	SUDS3	-0.328	ABCA9	-0.1271
SLC25A13	-0.51641	L2HGDH	-0.4939	CTSZ	-0.4694	DCAF8	-0.4425	APMAP	-0.39185	PIGV	-0.3278	KIF11	-0.12663
PHF20L1	-0.51584	SNRNP27	-0.493	MESDC2	-0.4692	DCUN1D1	-0.4425	FAM175B	-0.39009	DHRS7B	-0.3242	SCN3A	-0.12578
GBF1	-0.51541	ASXL1	-0.493	NIPSNAP3B	-0.4692	SMURF1	-0.4425	NARS2	-0.38943	TECPR2	-0.3214	PLCB1	-0.12544
INO80C	-0.51529	NEK7	-0.4927	ZKSCAN4	-0.469	TMED1	-0.4417	C6orf1	-0.38917	MAP3K6	-0.3201	CENPK	-0.1242
AAED1	-0.5149	FAM160B1	-0.4927	TMSB10	-0.4685	KNSTRN	-0.4415	PLAGL1	-0.38908	BTRC	-0.3184	EHHADH	-0.12048
RAP2B	-0.51439	DNAJC5	-0.4921	RIPK1	-0.4684	BAG3	-0.4411	ARID5B	-0.38832	SNX27	-0.3175	IRF2	-0.11588
ZNF345	-0.51394	FAM134B	-0.4919	ZNF197	-0.4682	SNRPB	-0.44	HMG20A	-0.38746	FCHO2	-0.3161	SH3GL1	-0.11522
DCAF16	-0.51384	MIER1	-0.4918	STK26	-0.4681	CASP8	-0.4397	ZNF107	-0.38554	POMK	-0.312	FSTL1	-0.11063
RBM7	-0.51373	LILRA6	-0.491	C19orf79	-0.4676	DCTN6	-0.4396	PFKL	-0.38546	FAH	-0.3101	KIAA1328	-0.09798
TPI1	-0.512	MEI1	-0.4909	SLC44A1	-0.4673	ZNF653	-0.4391	TSTD2	-0.38345	PUS7	-0.3097	THBD	-0.09386
PLEKHA3	-0.51192	PHF19	-0.4906	CDK9	-0.4665	ATL3	-0.4389	MYO1B	-0.38285	USP9Y	-0.3067	MT2A	-0.09279
ASB6	-0.51192	SLC35B2	-0.4902	DLGAP4	-0.4661	ABCB10	-0.4388	RSL24D1	-0.38251	ZNF841	-0.3051	MAP3K20	-0.08221
TP53BP1	-0.5117	IGBP1	-0.4891	AGO1	-0.4659	ZNF772	-0.4385	SRPK1	-0.38029	E2F3	-0.3035	C5orf30	-0.07377
TMEM120A	-0.51167	UPF3B	-0.4889	BDH2	-0.4658	ZFP82	-0.4382	RHBDD2	-0.37887	RPS10	-0.3027	ZNF568	-0.07339
ARPIN	-0.51133	GPN1	-0.4889	PRRC1	-0.4657	PSMB6	-0.4382	NAP1L4	-0.37786	HERC6	-0.299	ALDH7A1	-0.06744
FAM89B	-0.5111	NOD2	-0.4884	KANSL3	-0.4649	SEL1L3	-0.4372	MTSS1	-0.37678	SLC25A28	-0.2981	RP11-40A7.2	-0.06399
MRPL17	-0.51034	FAM133B	-0.488	DTX3L	-0.4649	GTPBP2	-0.4369	LY6E	-0.37637	IL1RAP	-0.2957	CATSPERG	-0.05932
CDK2	-0.51023	RBPJ	-0.4878	C7orf43	-0.4648	GPR137	-0.4367	BMP1	-0.37633	FAM69A	-0.292	ZNF324B	-0.04673
UBE2A	-0.51013	AC017099.3	-0.4874	C5orf24	-0.4644	ZNF431	-0.4364	FPGS	-0.37476	FNDC3A	-0.2899	SP140	-0.04104
CRTC2	-0.51008	WIZ	-0.4863	CNPY2	-0.4642	43165	-0.4354	ACIN1	-0.37356	SECISBP2L	-0.289	ID3	-0.03814
WBP11	-0.50989	ARFGAP1	-0.4858	TMTC3	-0.4641	TAF9	-0.4353	HLA-DPA1	-0.37338	ZBTB41	-0.289	SSPO	-0.03723
ARL8A	-0.5096	AKR1C3	-0.4857	STAT6	-0.4628	ZFP28	-0.4352	ARHGAP31	-0.37334	ZW10	-0.283	RAB20	-0.02956
APLF	-0.50921	WIPF2	-0.4849	MED28	-0.4628	MED10	-0.4346	ZNF169	-0.37234	MFHAS1	-0.2827	TEX14	-0.01612
MYPOP	-0.50899	REST	-0.4849	NAPG	-0.4619	URB2	-0.4333	ZNF660	-0.37197	MYH11	-0.2801	APOE	-0.00905
CLN5	-0.50866	ACSL4	-0.4848	NACC2	-0.4617	TRPC4AP	-0.4332	FAM221A	-0.37188	SGO1	-0.2775	PHLDB2	0.003597
HLA-DPB1	-0.50848	ACADVL	-0.484	TSPYL4	-0.4615	MTR	-0.4329	SVIL	-0.37146	SCAND1	-0.2755	GPR18	0.014173
								MSH6	-0.37027	WDHD1	-0.2726	AK1	0.026351
										MED12	-0.2588	MYH7B	0.029058

						CLUSTER 2							
DEG	FC (log₂)	DEG	FC (log₂)	DEG	FC (log₂)	DEG	FC (log₂)	DEG	FC (log₂)	DEG	FC (log₂)	DEG	FC (log₂)
SLC27A1	1.542972	ZNF618	1.4769	ZC3H12D	1.42515	MICU1	1.36019	FBP1	1.31514	C1RL	1.25991	SUPT3H	1.213714
ADD3	1.54288	ORAI2	1.47679	TFAP4	1.42473	NEURL1	1.35994	ZFP64	1.31482	ITGB2	1.25871	PHF2	1.213164
ZNF652	1.542596	NMRAL1	1.47662	TRAM2	1.42381	GFI1	1.35961	GLTSCR1L	1.3148	POLR3K	1.25817	AKR7A2	1.211585
NUDT17	1.540387	PHACTR1	1.47482	ANKRD13D	1.4223	P2RX7	1.35939	L3MBTL2	1.31424	SH3KBP1	1.25806	RALGAPA2	1.209408
ZNF395	1.53956	HIST1H2BE	1.47457	SNX29	1.42219	ZMYM1	1.35889	TMEM168	1.31421	DIP2A	1.25791	SNTB1	1.208882
TMEM170B	1.539339	RBL2	1.47431	PTGS1	1.42178	LACTB2	1.35848	RECQL5	1.31297	ERI3	1.25713	LTBR	1.208391
PYGM	1.538316	CH507-42P11.8	1.4735	IQGAP2	1.42175	CRTC1	1.35725	C1orf162	1.31218	SUSD1	1.2569	TMEM19	1.208378
GLRX	1.537061	ATP2B4	1.4726	VAMP8	1.42143	MAML3	1.35719	MMP15	1.31207	INTS3	1.25646	MSH5	1.207787
CCDC186	1.535772	MDN1	1.47227	HIC1	1.42061	SCAMP5	1.35684	C6orf203	1.31112	FPGT	1.2549	PSMB9	1.206977
KLHL15	1.535289	MAP2K6	1.47226	SEMA5A	1.419	ST3GAL2	1.35615	FAM46A	1.31097	POU2F2	1.25429	RTKN	1.205673
JUNB	1.533821	EPHX1	1.47212	MEF2A	1.41841	CNTNAP1	1.35571	PRIM2	1.30865	PRMT3	1.2537	CLDN23	1.205326
APOBEC3C	1.533547	DCLK2	1.47177	ADRBK1	1.41796	ADAM11	1.35454	CUX1	1.30738	CYP2D6	1.2534	MYO15B	1.204918
IQSEC1	1.529911	ATG4C	1.47044	MYCBP	1.41737	PLCXD2	1.35448	IQCE	1.30573	CD36	1.25295	POLR3GL	1.203699
IGSF6	1.527765	FBXO32	1.4687	MGME1	1.41562	LMBRD2	1.35397	ACSS1	1.30534	ANAPC16	1.25288	NSMCE3	1.203255
OBFC1	1.52756	HSPG2	1.46636	PRR5L	1.41548	HERC3	1.353	NR1D1	1.30517	SHISA5	1.25218	IL11RA	1.202948
STMN3	1.526867	SHTN1	1.46636	NLRP7	1.41453	PRKCA	1.35213	DNAJC13	1.30434	ARID1B	1.25185	RHPN1	1.201772
SDHAF3	1.5264	USP18	1.46404	ZNF573	1.40898	MBTPS2	1.35206	RNF139	1.30433	KPTN	1.25182	LMO4	1.201392
XYLT2	1.525807	SP110	1.46367	NHLRC3	1.40868	TMEM129	1.35194	TET3	1.30388	METTL25	1.25167	RCN3	1.201335
FAM168A	1.524063	PIK3AP1	1.46267	CCDC191	1.40694	XXYLT1	1.35162	BTK	1.30387	KLHDC1	1.24978	UBE2E1	1.200175
STAC3	1.522519	PAIP2B	1.46227	CXorf23	1.40687	MGST2	1.35085	NCOR2	1.30351	THEM6	1.24943	MAP3K4	1.199999
TTC24	1.521241	DNASE1	1.46088	TXNIP	1.40567	MSRB3	1.35066	HIGD1A	1.30335	KIAA2013	1.24744	MXI1	1.199169
ANKRD39	1.518195	COQ7	1.45921	PLCB4	1.40449	RFT1	1.35027	CECR5	1.30131	MAP2K5	1.24608	DOCK2	1.199159
CDKN2AIPNL	1.517658	EPS8L1	1.45875	HIBADH	1.40085	RP11-167P11.3	1.34995	CDK5	1.3007	AMDHD2	1.24583	OBSCN	1.198616
PQLC3	1.515242	SLC12A3	1.45771	RPP21	1.39971	TNFSF13B	1.34974	RELL2	1.30051	SMYD2	1.24581	SYNE1	1.198589
HSPA2	1.51518	SMARCAL1	1.45766	SAMD14	1.39885	ALDOC	1.34827	BICD2	1.29945	LMNTD2	1.2448	CARNS1	1.198353
SLC25A20	1.514876	MZB1	1.45737	B3GNTL1	1.3986	KCNK10	1.34761	CASP1	1.29865	ARHGAP18	1.2443	FAM173A	1.197638
TDRD1	1.514178	SHANK1	1.45698	LPCAT4	1.39803	C19orf38	1.34756	WDR92	1.29754	SLC35B3	1.24322	ZNF692	1.196634
NOD1	1.512964	GPR162	1.45691	ABHD8	1.39762	SRGAP2	1.34647	EVC2	1.2968	SLC23A2	1.24258	DENND5B	1.194003
GALNT6	1.512702	TTC39A	1.45662	FEZ2	1.39634	ACSL5	1.34609	PTK2B	1.29421	SERPINF1	1.24242	CCDC50	1.192517
CEACAM21	1.512044	ZMAT5	1.45431	GNPDA1	1.39309	ADA	1.34558	C17orf67	1.29414	C9orf142	1.23805	DXO	1.190048
TGFBR2	1.509682	DDX60	1.45392	TCFL5	1.39307	FARS2	1.34536	LRRC8D	1.29285	UTRN	1.23745	CISD3	1.189748
SNAPC5	1.509119	TPK1	1.45383	DHRS4L2	1.39276	QRICH2	1.34517	ALG8	1.29271	TMBIM4	1.23721	JMY	1.18845
DGKD	1.508562	CYP4V2	1.45209	TASP1	1.39092	PRX	1.34353	PRAG1	1.29079	INPP5D	1.23565	GTF2IRD2	1.18765
EXOSC5	1.508852	FAM53A	1.45149	CBX8	1.39038	FAM111A	1.34273	GAB3	1.2906	TRMT2B	1.23444	DTWD2	1.186848
ACADSB	1.507561	MCCC1	1.45081	CCDC146	1.38976	HERC5	1.34201	FYCO1	1.29033	BCL7A	1.23442	NR1D2	1.186489
STX10	1.505713	SLC2A11	1.44915	ACSF3	1.38713	DTD2	1.3417	IRF5	1.28961	HK2	1.23369	TTC7A	1.186384
C4orf27	1.505542	LRP5	1.44867	TMCC1	1.3853	NCKIPSD	1.34165	LANCL1	1.28959	LCP1	1.23362	APOO	1.186073
PCYOX1	1.505212	GAL3ST4	1.44547	DOPEY2	1.38356	SH2D3C	1.34073	STAMBPL1	1.28796	KLF12	1.23282	TMEM141	1.184657
VPS13C	1.504844	FAM53C	1.44537	MC1R	1.38303	ABHD15	1.33811	PLEKHA2	1.28789	CEP131	1.23242	R3HDM1	1.184164
WDR66	1.504304	C11orf21	1.44487	TTC21A	1.38293	SLC2A8	1.33739	EIF4EBP1	1.28705	ACYP1	1.23164	SKP2	1.184103
CORO2A	1.503338	CD99L2	1.44478	CERS6	1.38238	ARMC10	1.33557	MED13L	1.28598	RTN4IP1	1.23144	HIBCH	1.183917
CCDC86	1.503094	C15orf52	1.44424	RFXAP	1.38022	FKBP15	1.33541	NT5DC1	1.28538	NT5DC3	1.23064	FUCA1	1.182975
TRAPPC12	1.50199	UMAD1	1.44379	FANCI	1.38004	IER2	1.3337	RECK	1.28506	TPCN1	1.23059	KBTBD7	1.182947
TEP1	1.50142	UBE2L6	1.44369	NHLRC4	1.37898	TMEM109	1.33358	ATF3	1.28267	NCOA2	1.23033	RHOB	1.182849
PEX7	1.500362	SCRN3	1.44338	KDM1B	1.37804	ATP10D	1.33264	POC1A	1.28256	UBE2S	1.22977	SNAPC3	1.18245
SLC2A6	1.499813	BBS9	1.44321	GGH	1.37799	DTX3	1.33227	EIF4G3	1.28051	TRIM8	1.22924	CEBPA	1.1822
TMEM209	1.499631	CDH23	1.44266	CASP8AP2	1.37701	SLC2A9	1.33211	ZNF703	1.28042	ZNRF2	1.2283	TSEN15	1.181335
SLC25A43	1.49809	STAU2	1.43939	ZDHHC21	1.37658	STXBP4	1.33156	ALKBH8	1.2793	CCDC138	1.22811	ZNF362	1.180281
PIP4K2A	1.497586	ZNF276	1.43881	CCND3	1.3762	PTPRJ	1.33133	GABRR2	1.27821	USP6NL	1.22708	MAST3	1.179821
RP11-164J13.1	1.497582	RBCK1	1.43778	MAP4K1	1.3747	SRPX	1.33113	TRIM44	1.27736	NCOA1	1.22556	TMTC4	1.178246
DEF8	1.497466	CNTRL	1.43607	NUP210	1.37412	MTMR12	1.33066	SORD	1.2772	RABL2B	1.22491	MAPRE2	1.177751
BLNK	1.496863	FBXW5	1.4351	RP11-298J23.10	1.37371	PON2	1.3305	FLNB	1.27664	GHDC	1.22439	SETDB2	1.177463
CLEC10A	1.496382	PPP3CA	1.43464	SLC47A1	1.37351	FGD3	1.33006	BTBD2	1.27578	HHAT	1.22406	KCNK1	1.176484
NADK	1.496107	TMEM251	1.43457	INTS10	1.37249	PRMT7	1.32966	PYURF	1.27549	OGG1	1.22364	PIP5K2B	1.175532
LDAH	1.49577	NSD1	1.4336	RASGRP2	1.37094	ARHGEF4	1.3294	ITPR2	1.27357	DERL3	1.22284	ARV1	1.175095
NIPSNAP1	1.493412	ZDHHC17	1.43348	MPPE1	1.37058	NSL1	1.32626	DACT1	1.27254	GCSAM	1.22265	PLCG2	1.174994
POP5	1.49192	CYSLTR1	1.43306	ALPK1	1.37057	STARD10	1.32512	CHD9	1.27196	TMEM128	1.22265	IFT140	1.173759
GJC2	1.491771	MYO1F	1.43281	MSH3	1.37051	CRTAP	1.32492	YPEL1	1.27095	SH3BP2	1.22128	ACBD6	1.173456
OSM	1.48953	KRCC1	1.43191	XKR6	1.36983	ZNF296	1.32474	PACS2	1.27079	GGCT	1.22029	FBXO44	1.172072
ADGRE2	1.488556	STRA13	1.43048	FBXO4	1.36943	ABI2	1.32467	RNF123	1.26771	C11orf80	1.21999	ZRANB3	1.171514
BANK1	1.484983	GLT25D1	1.42992	CNNM3	1.36918	SUMF1	1.32452	MLLT1	1.26655	CORO1B	1.21989	GZF1	1.171435
SLC7A6	1.484981	MBNL3	1.42966	PARN	1.36816	MTAP	1.32316	ATP6V0A1	1.26628	ADD1	1.21896	CUL4B	1.171112
TNF	1.483749	FTCDNL1	1.42892	KCNK17	1.36651	LRRC16A	1.32209	CREB3L2	1.26579	SPATA5	1.21787	PCYT2	1.170932
EHBP1	1.482924	MLH3	1.42873	RAP1GDS1	1.36577	FIG4	1.32071	NLRC5	1.2646	ATPIF1	1.21717	SCFD2	1.170774
KIAA0226L	1.481743	CAT	1.42804	SKAP2	1.36361	RNASEH2B	1.32037	DERA	1.26397	FHL1	1.21629	C4orf3	1.169135
CSRP2BP	1.480028	PRKCB	1.42731	LILRA2	1.36344	SNUPN	1.31963	SERPINI1	1.26364	GIMAP2	1.21599	RASGRP4	1.167615
IRF8	1.47941	VCL	1.42666	CECR1	1.36319	SOCS3	1.31816	CCDC183	1.26361	NAA38	1.21581	SNRNP25	1.167608
PLCL2	1.479323	KHDRBS2	1.42619	CCDC152	1.36038	PAM16	1.3165	GLIPR1	1.26102	RHBDD1	1.21514	DTX2	1.167594
BBS10	1.478157	SLC25A42	1.42553	FAM210B	1.36036	CPPED1	1.31636	ACAP1	1.26067	TMEM156	1.21448	ZNF540	1.167283
PIGH	1.477987	PPM1K	1.42522	TMEM91	1.36026	SPIB	1.31525	KIAA1109	1.26065	RFX3	1.21425	ATAD5	1.166984

CLUSTER 2													
DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)
PPP2R5D	1.165908	HMGN3	1.127	RMDN3	1.08838	RNF141	1.04676	DENND6B	1.00901	SLC38A10	0.96925	PDK2	0.941
BIN1	1.165603	NUDT16	1.12532	PIGZ	1.08628	KIAA0513	1.04643	ZNF467	1.0082	KIAA1370	0.96854	EGLN1	0.939673
KCNQ1	1.164064	LBHD1	1.12529	FOCAD	1.08624	COMMD8	1.04626	RBFA	1.0079	ZNF138	0.96809	WWP2	0.93925
SCAPER	1.163876	SELL	1.12496	SLC39A11	1.08506	AOAH	1.04541	RBKS	1.00681	MAVS	0.96769	NAGA	0.938874
RWDD2B	1.163389	FZD3	1.12477	ICMT	1.08485	ENOX2	1.04476	CUL7	1.00635	SERGEF	0.96725	SYTL1	0.93884
NUDT18	1.162609	NFATC3	1.12457	HIST3H2A	1.08419	NBPF14	1.04439	SPTLC2	1.00559	RBMS1	0.96719	ZBTB21	0.938217
PIK3IP1	1.161743	FRYL	1.12403	UBXN8	1.08366	TRIT1	1.04407	PIGN	1.00537	HIST2H2BF	0.9666	ARAP1	0.938097
MPZL1	1.160684	SLC29A3	1.12397	XAF1	1.08351	RNF165	1.04377	SLC39A3	1.00521	CWC27	0.96657	SRPK2	0.93802
NAA40	1.158735	ABCA7	1.12229	HPS4	1.0827	APAF1	1.04371	MRE11A	1.00519	KLHL6	0.96651	DUT	0.936576
TMEM104	1.158526	CCDC56	1.12215	POC5	1.08258	MKL2	1.04299	PYCR2	1.00374	FUCA2	0.96542	SYCP2L	0.936423
DBNL	1.158315	TAP2	1.12187	STXBP5	1.08237	ANKMY1	1.04243	TMEM219	1.00323	DOCK11	0.96533	SLC12A9	0.935741
ADGRA3	1.158078	SLC23A1	1.12182	MYADM	1.08187	ZCCHC24	1.0407	N4BP2	1.00202	RHOBTB3	0.96498	C22orf39	0.934541
OSBPL5	1.156846	CCDC18	1.12092	FBXW8	1.08062	WDR74	1.03886	PDDC1	1.00191	P2RX1	0.96438	ZDHHC4	0.934435
B3GAT3	1.156383	KATNAL1	1.12051	RAVER2	1.07978	CCDC189	1.03849	CYB5R1	1.00119	CCDC69	0.96397	VPS25	0.934423
MED30	1.156135	TMEM186	1.11909	SBF1	1.07967	CRYZ	1.03777	ARRDC5	1.00077	KDM3B	0.96383	SPG21	0.934196
SIGMAR1	1.155385	CBX7	1.11905	KLHL8	1.0778	PHB	1.03695	TMEM254	1.00056	GATM	0.96372	DUSP23	0.933897
C9orf91	1.153979	YPEL2	1.11895	CSK	1.07749	RABGAP1L	1.03634	LEPROTL1	1.00023	RHOT1	0.96341	SPDYE3	0.93334
AP1S1	1.153287	LRRN2	1.11892	TTLL1	1.0768	ERBIN	1.03619	TMLHE	1.00008	SNTB2	0.96247	CD2	0.933201
MTM1	1.152697	ROGDI	1.11888	MAML2	1.07639	TMEM201	1.03596	CLSTN1	1	HSDL2	0.96235	SCMH1	0.933193
SELPLG	1.152513	ACAT1	1.11834	CMTR1	1.07584	WASHC3	1.03504	KAT2A	0.99953	HDDC2	0.96225	GNS	0.932144
MTMR1	1.152274	UCP2	1.11834	DHTKD1	1.07463	TKFC	1.03435	ACVR1B	0.99949	SLAIN1	0.96191	PDCD4	0.931841
PAN2	1.152129	GALNS	1.11771	SIPA1	1.07424	CDK10	1.03204	SERHL2	0.99674	LOXL4	0.96119	FANCD2	0.931504
ATIC	1.150837	CRTC3	1.11456	SLC39A10	1.0736	PYROXD2	1.03194	GCA	0.99601	ZFYVE26	0.96084	FRA10AC1	0.930679
DROSHA	1.149934	CHAMP1	1.11428	L3HYPDH	1.07359	CHPT1	1.03126	RP11-258C19.5	0.99505	FAM65A	0.96036	PAPSS1	0.93058
PHYKPL	1.149798	VPS45	1.11395	CCDC14	1.07259	RAB24	1.03123	BBX	0.99385	ARHGAP4	0.96009	NME4	0.93016
GIN1	1.14958	COX20	1.11312	SRF	1.07256	USP24	1.03064	ULK1	0.99353	MPV17	0.95954	ACBD5	0.929498
ITPR1	1.148273	LRRC36	1.11243	PIGP	1.0714	C19orf60	1.03063	CCDC88A	0.9935	HIRIP3	0.95884	SLC35A5	0.929251
FAM122B	1.147917	LILRB1	1.1114	C1QTNF6	1.07079	SUCLG2	1.02828	OFD1	0.99328	NEK9	0.95873	RNF13	0.928437
ASCC3	1.147639	TARBP1	1.11111	PLD4	1.07043	SLC4A5	1.02822	PPP1R10	0.99311	BCAT2	0.95827	TMEM14B	0.927217
EXOC6	1.14761	PTPRE	1.11094	NIPAL3	1.07036	LTK	1.02682	STX7	0.99244	WDR77	0.95802	THOC3	0.926518
DUSP2	1.147027	RP5-862P8.2	1.11023	C6orf89	1.07027	ATPAF1	1.02594	ORC3	0.99086	UNC13D	0.95772	FGL2	0.925992
TRIM56	1.146259	PRKACB	1.10978	PIN1	1.07019	HSBP1L1	1.02525	TNRC6B	0.99009	MAPKAPK2	0.95755	FAM200B	0.925894
PCED1A	1.145667	PRKD2	1.10771	PIP5KL1	1.07002	MIEN1	1.02519	MAFK	0.98974	TRAP1	0.95697	TTC17	0.925299
TIPARP	1.144589	RNF170	1.10718	SPG11	1.06985	RPIA	1.02488	DCAF12	0.98958	ADAM10	0.95683	DFNB59	0.924084
MIPEP	1.144542	TTC14	1.10584	FLYWCH2	1.06847	ACY3	1.02485	HLCS	0.98941	CYP2U1	0.95586	GPR155	0.923311
PRKDC	1.144213	MAN2B2	1.10548	USP40	1.06764	STRBP	1.02473	ATF6B	0.98932	RMDN1	0.95582	AP3M1	0.922651
NBAS	1.14416	ERAP1	1.10504	JAG1	1.06717	VWA5A	1.02464	TUBGCP3	0.98921	NEIL2	0.95514	ITGB7	0.921783
FAM177B	1.144035	MBNL1	1.10472	EVL	1.06475	NCLN	1.02329	TBC1D8	0.98882	TRAK1	0.95455	TMEM260	0.921615
MS4A6A	1.143496	C5orf45	1.10452	SLC39A6	1.06455	GMCL1	1.02259	RAP1GAP2	0.98808	ACADM	0.95433	DNAJC10	0.921528
EEFSEC	1.14282	ANKRD26	1.10414	CAD	1.06427	MRPL40	1.02217	C4orf32	0.98781	SPTBN1	0.95348	AMIGO2	0.92152
FAM208A	1.14262	DENND4B	1.10352	CYB5D2	1.06413	PHKA2	1.02194	ITPKB	0.98771	R3HDM2	0.95339	FAM219A	0.921159
JUND	1.142434	LARS	1.10334	IFT27	1.06384	MYO5A	1.02179	UNC119	0.98733	ALG1	0.95195	KLC4	0.921124
SIGIRR	1.141207	MIIP	1.10181	MZF1	1.06264	HEXDC	1.02143	HERC2	0.98726	PCYOX1L	0.95159	ZNF844	0.920285
SLC15A3	1.140858	PTPN22	1.10137	AGTRAP	1.06224	ANAPC1	1.02129	NCAPD2	0.98713	MFSD3	0.95127	ARHGAP25	0.920077
SIRPB2	1.138804	CCDC115	1.10063	CEP104	1.06163	ALG10	1.01968	PIGF	0.98601	BRICD5	0.95117	CD52	0.91967
ZMAT1	1.138652	CDC14A	1.10051	PPP1R21	1.06106	ANO6	1.01914	APP	0.98535	TNFAIP2	0.95061	ZNF25	0.919241
NDUFS2	1.137528	PHPT1	1.10025	KLHL42	1.06088	PRIMPOL	1.01902	YBEY	0.98532	SIRT5	0.95007	ABHD12	0.918962
BTBD6	1.137362	GIT2	1.10022	SERPINF2	1.06079	HIVEP3	1.01882	FAM217B	0.98361	MORC4	0.94999	NOTCH2	0.918491
CAPS	1.13728	C10orf88	1.09997	DPP4	1.06013	TBX19	1.0187	SEC31B	0.98302	GALT	0.9496	LENG8	0.918364
CNPY3	1.136574	LEPR	1.0997	TMEM135	1.05914	NBR1	1.01852	C22orf46	0.98274	MID1IP1	0.94914	IDNK	0.917956
GPATCH11	1.136304	PHF21A	1.09936	ALMS1	1.05874	TMEM192	1.01812	ZNF106	0.98243	PARP4	0.94875	CMPK2	0.917566
ZDHHC14	1.13471	SMCO4	1.09896	DST	1.0587	PPP3CB	1.01787	METTL15	0.98196	MTIF2	0.94815	AMICA1	0.916978
IFT74	1.134637	STAT5B	1.09881	DIS3L2	1.05819	COQ5	1.01729	NIPA1	0.9815	ASPHD2	0.9474	ZNF275	0.916333
RNGTT	1.134073	DENND1C	1.09851	TLR7	1.05788	LMTK2	1.01579	TMEM143	0.98004	SCYL3	0.94735	GABPB2	0.916293
PXMP2	1.133049	SP4	1.09831	TM7SF2	1.05644	SLC38A6	1.01516	SAMD1	0.97827	RUVBL1	0.9473	STIM2	0.9146
SLC43A1	1.132915	TSSC1	1.09805	ERCC2	1.05456	CALM3	1.01486	PARD6A	0.97811	ENTPD5	0.94628	PSMB8	0.91351
DGKE	1.132461	ZNF585B	1.09797	TGFBI	1.05353	DET1	1.01397	RASA1	0.97659	BTN3A2	0.94561	LPAR2	0.912536
LRP8	1.13213	KLHL12	1.09782	UBA7	1.05333	CAPN15	1.01346	ADRA2B	0.97625	CARF	0.94483	LSM6	0.912403
ASAH1	1.131894	CYYR1	1.09773	ZNF83	1.05305	AAAS	1.01333	MGAT1	0.97528	DOK3	0.94351	SLC35E3	0.91215
TANGO2	1.131691	SFTPA1	1.09766	HEMK1	1.05279	CEP120	1.01316	TACC1	0.97494	PIBF1	0.94325	SLC25A45	0.911968
TMEM173	1.128905	SFXN5	1.09682	DCTD	1.05129	PKD1	1.01237	REC8	0.97481	CAPRIN2	0.94315	GGA2	0.911718
CC2D1A	1.128694	DPY19L3	1.09583	PSTPIP2	1.05048	SPATA13	1.01236	HSD17B4	0.97456	MAPK3	0.94308	UVSSA	0.911469
ANO8	1.128674	NMRK1	1.09457	XK	1.04991	FAM173B	1.01233	PLK3	0.97441	ADAT3	0.94258	CAMTA2	0.91049
TRIO	1.128144	FAM63B	1.09422	FKBP5	1.04955	TCIRG1	1.01084	SMG7	0.97419	GLCE	0.94232	CTU2	0.90883
AMN1	1.12794	GNAQ	1.09295	PDP2	1.04917	ZCCHC7	1.01074	TMEM187	0.97359	C14orf145	0.94217	PPP6R2	0.908626
ADI1	1.127787	PTPRS	1.09269	PRIM1	1.04846	MTA1	1.01069	TRAPPC6A	0.97303	ANKRD36C	0.94182	SLX4IP	0.908603
VPS13B	1.127642	TMEM230	1.09217	IRAK1	1.04816	FBXL14	1.01065	ZNF862	0.97183	PUDP	0.94158	FAM98C	0.908551
DLG1	1.127612	BDH1	1.09187	GCFC2	1.04761	S1PR4	1.00984	MTRF1	0.97055	ARHGAP19	0.94148	CCDC125	0.908461
TDRD3	1.127569	CCDC78	1.09171	TBL1XR1	1.04756	AKAP11	1.00975	GSR	0.9695	CHCHD10	0.94142	VASH1	0.906713
FBXL17	1.127248	AKAP9	1.08875	FAM167A	1.04696	MOAP1	1.00963	DIS3L	0.96945	ISYNA1	0.94142	RNF122	0.906614

CLUSTER 2													
DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)
MXRA8	0.906397	PEX3	0.87718	ITFG1	0.84903	ZSCAN30	0.81708	DNAJA3	0.7857	ZCCHC14	0.74412	MTURN	0.647398
PIGM	0.906185	ZZZ3	0.87713	ZFP41	0.8487	PYGB	0.81693	TXNDC16	0.78435	DYNLL1	0.7431	MVK	0.636213
UBTF	0.905508	PARP16	0.87681	PHC3	0.84833	CD14	0.81524	MFSD1	0.78427	ZNF791	0.74261	ZMYM3	0.63128
MDM4	0.905228	RSU1	0.87633	CRLF3	0.84723	KDELC2	0.81522	MAP3K2	0.78327	CCDC102A	0.74214	WASHC1	0.628192
SENP7	0.904821	NFS1	0.87593	ECHDC1	0.84688	PELI2	0.81503	ZNF846	0.78287	CENPQ	0.74212	RUFY4	0.626936
PAN3	0.90455	TBCK	0.87559	ANKS1A	0.84586	AP2B1	0.81468	NEK8	0.78142	SLC25A35	0.74073	NR4A1	0.613426
TTLL5	0.904239	USP32	0.87537	ADCK3	0.84501	AIFM1	0.81409	PMS1	0.78135	MAPK9	0.74073	DBN1	0.612655
MAD2L1	0.904235	CEP290	0.87515	MAMDC4	0.84473	ERV3-1	0.81324	RALGPS1	0.78124	POU2F1	0.74011	TPRN	0.609629
RP11-652L8.2	0.90232	BZRAP1	0.87481	ACADS	0.84448	UBE3B	0.81286	C2CD5	0.78088	SETDB1	0.73995	VAMP1	0.60506
ARC	0.902215	WASHC5	0.87386	LTBP3	0.84365	IGSF8	0.81285	IFRD1	0.78026	RPA1	0.73873	SDHAF4	0.601241
ANKS3	0.901723	C16orf86	0.87335	GPM6B	0.84238	C1GALT1C1	0.81262	MCM3	0.78021	FLYWCH1	0.73699	MTX3	0.599698
TUBB4B	0.90158	CASS4	0.87305	VKORC1L1	0.84212	NOL8	0.81261	ARL6IP6	0.77979	CDHR5	0.73618	NKRF	0.596505
VPS41	0.901169	URI1	0.87215	NUDT9	0.84196	ATP6V0C	0.81238	PTCH2	0.77972	RHOBTB2	0.7352	UBE2D4	0.59464
PIP4K2C	0.900954	PRR12	0.87159	ZNF789	0.84117	MAT2A	0.81223	STK24	0.77872	PPIP5K2	0.7351	EOGT	0.589015
PHC1	0.900206	BTBD19	0.87159	PARP8	0.84077	MBOAT1	0.8121	GTF2I	0.77857	ZNF787	0.73083	LRCOL1	0.588127
CFAP97	0.900007	EFCAB4A	0.87146	CARD8	0.83954	NUDT3	0.81145	SVIP	0.77853	GTPBP3	0.73077	TRANK1	0.579376
IL27RA	0.898902	IVD	0.87094	SRI	0.83898	NDUFB5	0.81138	TRRAP	0.77757	PEX12	0.73077	RLF	0.563986
MPHOSPH9	0.898311	TTC28	0.87051	SDCCAG8	0.83857	ERCC6L2	0.81101	MTX2	0.77751	RSAD1	0.73043	PLVAP	0.562537
TEF	0.897857	COPZ1	0.87043	PRMT2	0.8384	TUBG2	0.81026	ARHGAP30	0.77709	CTBP1	0.73036	PLEKHH3	0.561456
COG7	0.897637	RBSN	0.86993	STK10	0.83803	ADCK1	0.81023	AMPD2	0.77619	EP300	0.7281	HIST1H2BG	0.560934
JAZF1	0.896222	MED26	0.86917	ANKIB1	0.83799	ALG6	0.81022	COPS7A	0.77505	GNG2	0.7268	MTFMT	0.560369
CARS2	0.895057	PBX2	0.86875	AACS	0.83758	TMEM206	0.81013	WDR7	0.77283	PLEKHG4	0.72581	NOP56	0.551634
COMT	0.89459	OSBPL11	0.86853	CCDC107	0.83751	DDHD1	0.80956	CCNL1	0.77188	EXTL3	0.72514	CNKSR2	0.550925
EIF2B1	0.894322	FCHSD2	0.86837	CACYBP	0.83705	ZADH2	0.80945	KDM4C	0.77043	NCSTN	0.72503	RFX1	0.550114
CHMP3	0.894168	TRIM66	0.86813	CYTH1	0.83701	RICTOR	0.80892	ZNF558	0.76977	ZNF185	0.72322	SLC25A53	0.544713
ITGAM	0.893977	DIDO1	0.86775	TRA2B	0.83691	PHKB	0.80886	TRIM41	0.76965	UBE4B	0.72319	DYNC2H1	0.541322
RAB38	0.893888	TBCEL	0.86767	ABI1	0.83643	GTF2IRD2B	0.80862	KIZ	0.76947	SLC29A1	0.72304	KCNH8	0.538842
TNRC6C	0.89322	ENOPH1	0.86695	MCOLN1	0.83632	CDCA3	0.80854	CTD-2132N18.2	0.76838	QSOX2	0.72228	KIAA0825	0.533607
RAD17	0.892582	CAMKK2	0.86645	LRBA	0.83573	PIGO	0.80774	CCBL2	0.76753	C4BPB	0.72143	VILL	0.532605
GADD45B	0.892516	DPY19L4	0.86585	FANCL	0.83542	CIZ1	0.80765	PLEKHG4B	0.76625	SRBD1	0.72118	URGCP	0.529992
ADCK4	0.89214	ACBD4	0.86505	TRIM25	0.83519	GABBR1	0.80688	KRBA1	0.76495	CROCC	0.71955	ZNF570	0.509464
VPS8	0.891934	VRK2	0.86455	SMIM6	0.83481	H2AFY	0.80686	DCLRE1C	0.76382	SLC35E2B	0.71894	BUB1B	0.507576
RSRP1	0.891529	BRF2	0.86392	MEF2D	0.83427	TESPA1	0.80656	NFATC1	0.76368	CSAD	0.71887	PNLDC1	0.490299
ARHGEF1	0.89095	RMND5B	0.86389	RBM19	0.83386	PPP1R15A	0.80621	MRPS27	0.7636	CHCHD7	0.71746	NCF2	0.479313
HMHA1	0.890655	FAM120A	0.86354	CELF2	0.83365	ZFYVE19	0.80611	ATR	0.76358	HDAC5	0.71745	TRMT12	0.475652
PARVG	0.890552	CEP85L	0.86328	OSBPL7	0.83331	ZNF407	0.80589	GANC	0.76318	OGT	0.71638	SLC30A1	0.474351
KCNC3	0.890548	IARS2	0.86315	TIGD5	0.8327	CHST15	0.80522	BIRC6	0.76304	PER1	0.71571	CDR2	0.46603
ELL	0.890523	RMI1	0.86287	C16orf58	0.83255	C11orf49	0.805	HCFC1	0.76192	ADAT2	0.71305	OSBPL10	0.45282
ITFG2	0.890484	SFT2D1	0.8626	DHX37	0.83209	PHTF2	0.80414	STX16	0.76183	TRUB1	0.71213	STK19	0.446415
OCIAD2	0.889024	RP11-203J24.9	0.8625	DDX3X	0.8318	ARSB	0.80361	C11orf71	0.76175	CBR4	0.71012	RIC3	0.427044
PCBD1	0.888589	MCM3AP	0.86174	USP28	0.83128	MLLT10	0.80309	ZNF280D	0.76114	SFMBT2	0.70961	TXLNG	0.422967
CDC16	0.888295	SLC4A7	0.86044	TSC22D3	0.8304	LRRC58	0.80247	CCDC7	0.76085	ERCC3	0.70844	BEND4	0.422684
LRP10	0.887937	PLEKHM3	0.86032	UCP3	0.83036	METTL23	0.80128	DMXL1	0.76082	HSF4	0.70797	ABI3	0.419383
NUDT4	0.887709	APBB3	0.86027	PCMTD2	0.82997	STIL	0.80077	ZMYND8	0.76018	ERMARD	0.7067	TNFSF9	0.418309
ZNF117	0.887031	TYW1	0.86	FOSL2	0.82902	SCIMP	0.80001	HENMT1	0.75992	LRFN4	0.70623	ST5	0.415392
NEMP2	0.886989	AP1AR	0.85966	AGL	0.82835	CALM1	0.79998	RAD50	0.7591	DEDD2	0.70559	SLFNL1	0.413835
DDIT4	0.886863	LEPROT	0.85959	DNAH1	0.82828	GORASP1	0.79801	TTC12	0.75902	TIRAP	0.70526	NEB	0.405653
TAB1	0.88685	CCDC61	0.85952	ACAP2	0.8266	FAM102A	0.79676	TAOK3	0.75881	SLC15A2	0.70403	DDIT3	0.404534
ZDHHC2	0.886677	GUF1	0.85922	ITGAX	0.82646	EXOC2	0.79655	EAF2	0.75818	NAAA	0.70235	RUNX1	0.398217
BTN3A3	0.886461	TRMT13	0.85918	TRIQK	0.82645	DNAL4	0.79619	NUDT5	0.75723	ANKRD37	0.70024	AGER	0.39467
ACAD10	0.886291	DZIP3	0.85915	DNM2	0.82627	EDRF1	0.79545	POT1	0.7572	TNRC18	0.69823	DPH3	0.393892
SOCS1	0.886039	ARHGAP33	0.85823	ANKRD16	0.82627	SLC18B1	0.79433	CCDC91	0.75557	KLF9	0.69744	AHSA1	0.388683
KCNAB2	0.885293	ATXN10	0.8576	CFAP44	0.82568	PCNT	0.79376	MFSD14C	0.75543	HMGCL	0.69469	IER3	0.387878
GLUL	0.885174	IL18R1	0.85743	TFCP2	0.82566	SLC12A2	0.79356	CABIN1	0.75537	HSPA8	0.69259	LLGL1	0.382077
NUCB2	0.88508	SPATA6	0.85736	ZNF414	0.8255	SH3BP1	0.79303	YLPM1	0.75497	PMS2	0.69072	KCNJ12	0.36384
IFNAR2	0.884767	RASGEF1B	0.85727	FLVCR1	0.82497	NFATC2IP	0.79193	NBN	0.7523	DLGAP3	0.69012	CAPS2	0.361396
LGALS8	0.884478	SCN1B	0.85588	SPECC1	0.82473	RP11-192H23.4	0.79169	TCAF1	0.75211	GHRL	0.68962	MROH6	0.35891
ATG16L2	0.88436	SECISBP2	0.85581	WRN	0.82399	TUBGCP5	0.79156	BPTF	0.75179	C8G	0.68755	CBLN3	0.354687
SP140L	0.883958	ACSF2	0.85523	VPS13A	0.82271	SPATA24	0.79143	NDUFAF1	0.75156	DDX51	0.68753	RASIP1	0.342634
SLC26A1	0.883931	ABCA2	0.85498	CASC4	0.82181	ANGEL2	0.79109	SCCPDH	0.75132	CXXC5	0.68177	DNAJB1	0.339572
ATP2A3	0.883844	FAM228B	0.85458	ME2	0.82141	ALKBH3	0.79105	SPHK2	0.75109	RCBTB1	0.68109	ZNF571	0.332301
ADK	0.883336	FAM8A1	0.85417	ST14	0.82122	CARD16	0.79026	FAM46C	0.75098	LSMEM1	0.67929	SPTY2D1	0.331487
CCSAP	0.883234	TCHP	0.85377	PQLC2	0.82078	DNAJB2	0.79002	BTN3A1	0.75058	TCEAL1	0.67874	NUMBL	0.32564
OAS2	0.882701	DNAJA4	0.85326	MTHFD1	0.82022	BPGM	0.78989	ZDHHC8	0.74974	APOBEC3G	0.67385	H2AFX	0.31499
GOLM1	0.882097	NBPF10	0.85284	TMEM87B	0.82017	KCTD19	0.78797	DHX58	0.74858	FUK	0.67016	FAM83D	0.299784
MT-ND5	0.882043	DRAM2	0.85051	SIAE	0.82008	ATE1	0.78761	TNFRSF13C	0.74767	ACCS	0.66516	KLF6	0.295541
METTL3	0.880549	ITPK1	0.85043	DECR1	0.81977	EARS2	0.78732	ENC1	0.74617	NUDT19	0.66502	MYO15A	0.284841
ADAT1	0.879558	DPH1	0.85016	PNKD	0.81888	EPHA4	0.78729	CD79A	0.74532	ARID3A	0.66485	ZNF691	0.276489
GOT1	0.878293	NFE2L3	0.85006	TCF4	0.81834	NIPSNAP3A	0.78727	LMNB2	0.74463	TRAPPC8	0.65626	ZNF691	0.276489
GMIP	0.878205	USP34	0.84986	SPDYA	0.818	WDR61	0.78657	CNTF	0.74416	CFP	0.653	DNAJB6	0.271835

CLUSTER 2													
DEG	**FC (log$_2$)**	**DEG**	**FC (log$_2$)**	**DEG**	**FC (log$_2$)**	**DEG**	**FC (log$_2$)**	**DEG**	**FC (log$_2$)**	**DEG**	**FC (log$_2$)**	**DEG**	**FC (log$_2$)**
CNKSR3	0.254318	RPS6KA5	0.24247	ITGA6	0.20429	NPDC1	0.16982	TMEM106B	0.12182	AVPI1	0.11197	SAMD9L	0.07769
PLCD1	0.250566	ZFP30	0.22043	RAD54L	0.19098	B3GLCT	0.16237	DUOX1	0.11905	MKI67	0.1035	ACSM3	0.071061
PODXL2	0.249505	COA7	0.21328	NHSL1	0.19007	ZNF74	0.14442	HSPH1	0.11441	PRRT3	0.09636	PDE5A	0.057392
CEMIP	0.246008	ADAM33	0.20481	FKBP4	0.18351	LMO7	0.14354	HEXIM1	0.11206	LSR	0.08957		

CLUSTER 3													
DEG	**FC (log$_2$)**	**DEG**	**FC (log$_2$)**	**DEG**	**FC (log$_2$)**	**DEG**	**FC (log$_2$)**	**DEG**	**FC (log$_2$)**	**DEG**	**FC (log$_2$)**	**DEG**	**FC (log$_2$)**
CXCL10	-2.95242	LAD1	-2.4048	TGFBR1	-2.0101	PFKFB3	-1.837	NFKBIA	-1.65348	CD59	-1.4946	SLC25A29	-1.35897
FAM57A	-2.91307	PHF13	-2.4024	TRIB1	-2.0043	GNA13	-1.8352	IFI6	-1.64631	TTYH3	-1.4944	SQLE	-1.35513
SIRPA	-2.90836	RGS13	-2.3804	C1orf198	-2.0024	TIMP1	-1.8351	RNF19B	-1.64371	ZKSCAN7	-1.4925	EPB41L5	-1.35094
FILIP1L	-2.86759	PKIB	-2.3766	COL7A1	-2.0002	EPB41L3	-1.8345	PEX13	-1.63924	GTPBP1	-1.4914	PIK3R5	-1.35005
NFKB1	-2.85816	ID2	-2.3752	CHRNE	-1.992	GABPB1	-1.8294	GPX3	-1.63737	KBTBD8	-1.4889	SH2D2A	-1.34818
ACHE	-2.85341	CHST2	-2.3546	GOLIM4	-1.9876	HAVCR2	-1.8272	ZNF784	-1.63253	OASL	-1.4845	SERINC5	-1.34632
ARHGAP10	-2.85223	RET	-2.3476	ARHGEF40	-1.9873	PANX2	-1.8247	EIF4E	-1.62713	CREM	-1.4798	DUSP18	-1.34594
SYNPO	-2.84269	ZBTB8A	-2.3451	CCRL2	-1.9856	ATF5	-1.82	STAM	-1.62681	HSPA1A	-1.4773	MTHFD2	-1.34211
XIRP1	-2.78424	TOMM34	-2.3448	MMP9	-1.9841	ZSCAN2	-1.8184	C14orf28	-1.6227	WDR64	-1.4768	PPIF	-1.33963
PHLDB1	-2.78414	CMSS1	-2.3374	DUOX2	-1.9833	IZUMO4	-1.8156	ASF1A	-1.62207	CCDC93	-1.4759	HSPA6	-1.33676
MS4A14	-2.77217	GPR132	-2.3355	BID	-1.983	SRC	-1.8134	NRIP1	-1.61882	SLC6A8	-1.4748	CLIC2	-1.33431
A2M	-2.77082	TES	-2.3275	RGL1	-1.9799	NQO2	-1.8111	MRPL46	-1.61418	PTPN1	-1.4694	PPP1R3B	-1.33425
FADS3	-2.74792	ZNRF1	-2.3274	NFKB2	-1.9771	C16orf87	-1.8039	ABL2	-1.61374	CD58	-1.4683	TGFB1	-1.33353
MAFA	-2.70773	MS4A7	-2.3088	KCNC4	-1.9767	TRAF3IP2	-1.8037	AGAP3	-1.6117	ARHGEF2	-1.4683	ZNF530	-1.33324
SAT1	-2.69269	CALCRL	-2.302	SHF	-1.9754	CCND2	-1.7939	CDC42EP4	-1.60981	FNIP2	-1.467	MRC1	-1.33314
SSTR2	-2.68943	CKAP4	-2.2976	ETS2	-1.9741	SPHK1	-1.7937	TMEM6	-1.60873	TRABD2A	-1.4663	FMNL1	-1.33063
SLC7A11	-2.68824	NLRP2	-2.2924	LRRC15	-1.9713	INPP5A	-1.7933	FAM49A	-1.60541	ITPR3	-1.4648	NFE2L2	-1.32977
IL7R	-2.68812	STX11	-2.2879	NEDD4L	-1.9699	RANGAP1	-1.7906	PDE4B	-1.5974	LRRFIP2	-1.4622	P2RY10	-1.32764
DRAM1	-2.68635	SMAD7	-2.2805	ZSWIM4	-1.9694	SMTN	-1.7871	ENDOD1	-1.59302	TNFAIP3	-1.4596	ALOX5	-1.32557
BCAR3	-2.6852	SESN3	-2.2741	SEMA4A	-1.9694	ZNF620	-1.7858	PHF23	-1.58864	SYAP1	-1.457	ZFYVE28	-1.31864
SLC25A25	-2.6836	SAMSN1	-2.2657	NUDT11	-1.9686	AMOTL1	-1.7846	DUSP14	-1.58376	BZW1	-1.457	KCTD10	-1.31848
TXN	-2.67155	LILRA5	-2.2608	CPLX1	-1.9648	ITGA5	-1.7827	CTH	-1.58281	MOB3B	-1.456	ARL6IP5	-1.31822
PADI2	-2.6653	SERPINE2	-2.2445	MREG	-1.964	EZR	-1.7693	RTCB	-1.5825	CXCL16	-1.4548	CLIC4	-1.31635
THAP2	-2.661	NRROS	-2.2395	RALA	-1.9597	CLEC2D	-1.7656	ADGRG1	-1.57725	FBLN7	-1.4537	CENPL	-1.31564
SMOX	-2.65759	SPRED2	-2.2355	ZNF267	-1.9573	TSPAN33	-1.7612	OPN3	-1.5772	LZTS3	-1.4509	ZNF579	-1.31535
ADAMTS17	-2.64752	LFNG	-2.2323	SLC7A8	-1.9568	RFTN1	-1.7599	PTGER4	-1.57286	EZH2	-1.449	NFKBIE	-1.31443
TNFRSF4	-2.64322	SLAMF1	-2.2302	TIAM1	-1.9542	LILRB2	-1.7548	TBC1D13	-1.5719	ETV3	-1.4459	BOD1	-1.31291
IL21R	-2.64314	FHL3	-2.2262	MAST4	-1.9445	ZNF286A	-1.7547	VIM	-1.5713	GYPC	-1.4432	ZNF254	-1.31113
IGFBP4	-2.64104	PGAP1	-2.2182	ZBTB43	-1.9416	COL1A1	-1.7525	ILDR2	-1.56906	LDHA	-1.4423	EREG	-1.31064
EPAS1	-2.63269	SH2D3A	-2.2175	ZSCAN9	-1.9309	LIMA1	-1.7516	DENND4A	-1.56774	REL	-1.4395	BHLHE40	-1.3053
VDR	-2.6257	RSAD2	-2.2043	ITM2A	-1.9235	RAB30	-1.7511	TRAF5	-1.56087	EBF4	-1.4313	PAPD7	-1.30497
CISH	-2.62201	MALT1	-2.1995	GPR153	-1.9224	CLEC7A	-1.7451	ALPK3	-1.55761	EHD4	-1.4307	RAB27A	-1.30403
CXCL3	-2.61682	PLXNA1	-2.1958	IL4R	-1.9196	CDCA4	-1.7446	AGPS	-1.55636	DNM1	-1.4297	ZBTB17	-1.30401
DSE	-2.60519	TMEM63B	-2.1827	ADAM8	-1.9114	BIRC2	-1.7439	LYPD3	-1.55631	P2RX2	-1.428	MPZL3	-1.30331
RAB8B	-2.58191	LRP1	-2.1786	HES4	-1.9099	AXL	-1.7423	HMGB3	-1.55403	U2AF1L5	-1.4219	FAM174A	-1.30165
ITGAV	-2.56687	ELL2	-2.1785	NEU4	-1.9094	ARFGAP3	-1.7401	AIRE	-1.55131	LMBR1L	-1.4212	DLL1	-1.29933
TBL1X	-2.56087	PDLIM7	-2.1666	NFIL3	-1.9074	LPXN	-1.7346	AREG	-1.55109	FAM126B	-1.4199	ABHD4	-1.29918
NLGN2	-2.54573	DSG2	-2.1613	VMP1	-1.9064	TMEM45A	-1.7345	ACSL1	-1.54977	ACSL3	-1.4173	DDX47	-1.2976
SYNJ2	-2.54403	SLC4A11	-2.161	GMPR	-1.9032	CASP3	-1.7344	SLC24A4	-1.54883	GZMB	-1.4166	TMEM237	-1.2967
NECTIN2	-2.54296	CKB	-2.1584	BCL2L13	-1.9028	C1orf21	-1.7308	KIAA1586	-1.54769	SLC41A1	-1.4149	RTN4	-1.29431
SYTL3	-2.54088	C17orf53	-2.1528	RELB	-1.9007	SLC12A7	-1.7251	BCL9	-1.54628	MRPL39	-1.4142	UGDH	-1.29117
HLA-DQA2	-2.54085	FBXO48	-2.1507	SQSTM1	-1.8958	DNAJB5	-1.7225	AEN	-1.54462	ZDHHC18	-1.4142	MSC	-1.28936
ELOVL7	-2.53714	CD8A	-2.1386	SLC41A2	-1.8951	SRGN	-1.7223	TSC22D1	-1.53897	RRAGD	-1.4113	AP4M1	-1.28817
CD109	-2.53411	TRAF1	-2.1379	CASP7	-1.8925	RBM17	-1.7221	43162	-1.53494	ZNF629	-1.4093	IP6K2	-1.28701
ECE1	-2.52253	HSPA4L	-2.1242	AGRN	-1.8886	PELO	-1.7197	PARD6G	-1.53291	ADGRE5	-1.4092	ZFP69B	-1.28609
LRP12	-2.52069	C12orf45	-2.1156	TNIP1	-1.8857	OPTN	-1.7132	BTN2A2	-1.52947	ADSSL1	-1.4071	ORAI1	-1.28586
CLEC2B	-2.50279	RP11-382A20.3	-2.1032	CMTM7	-1.8812	MEX3B	-1.712	IFIH1	-1.52642	ZBTB39	-1.4014	TXNRD1	-1.28574
SHB	-2.50167	ZNF627	-2.0988	PLEKHG1	-1.8802	NANP	-1.7114	EGLN2	-1.52288	GATS	-1.393	C21orf91	-1.28464
ARHGEF17	-2.49677	BCL2	-2.0795	HAUS8	-1.8794	HLX	-1.7074	ARHGAP5	-1.52206	CAMSAP2	-1.3917	RFX2	-1.28386
PDCD1	-2.49623	DMD	-2.0791	SOCS2	-1.8739	MYO1G	-1.7041	TNFRSF1A	-1.5215	FNDC3B	-1.3907	IER5	-1.2791
CFLAR	-2.49462	IGLON5	-2.0782	NDC80	-1.871	DDR2	-1.7021	AANAT	-1.51975	TIFA	-1.3871	GAPDH	-1.27801
NPTX1	-2.4922	PXDC1	-2.0777	EMP1	-1.8666	SERPINB1	-1.6986	CRY1	-1.51925	RUBCN	-1.387	GNA12	-1.27714
P2RY6	-2.4772	HMOX1	-2.0762	SEC14L1	-1.8663	NAB2	-1.6983	ZNF250	-1.5128	RXRA	-1.3848	ACP5	-1.27486
MARCKSL1	-2.46493	COLGALT2	-2.0751	IL23A	-1.8631	EMP3	-1.6957	FYTTD1	-1.51128	PBDC1	-1.3794	NBEAL1	-1.27431
RAB9A	-2.46265	CD40	-2.0629	CDK17	-1.8594	HLA-DQB2	-1.6936	MAP3K9	-1.51076	CNIH4	-1.3721	CST7	-1.27382
DNMBP	-2.46233	GPR35	-2.0563	MLLT11	-1.8581	B4GALT5	-1.6718	PUS10	-1.51023	PLXNB1	-1.3686	ZNF738	-1.27365
CYP2S1	-2.4601	TPX2	-2.0489	ABCG1	-1.8559	PDE2A	-1.6677	FAM149A	-1.50977	MYB	-1.368	VEZT	-1.27286
ATXN1	-2.45257	RHOU	-2.0489	PDGFC	-1.8549	GABARAPL1	-1.6645	WDR91	-1.50968	FAM171B	-1.3667	NRSN2	-1.27191
ANKRD9	-2.45004	IFNGR2	-2.0398	CD83	-1.8536	GPR174	-1.6615	CTTNBP2NL	-1.50872	HID1	-1.3654	PAG1	-1.27074
EPOP	-2.44977	LIN37	-2.0383	PODXL	-1.8506	SDC4	-1.6595	GCLM	-1.50472	MEX3D	-1.3645	ARL8B	-1.2698
FPR1	-2.44305	FURIN	-2.0368	ARMCX2	-1.8505	BEND3	-1.6575	KLHL29	-1.50335	KIF1B	-1.3627	PEAK1	-1.26794
DFNA5	-2.44184	VEGFA	-2.0366	RBBP9	-1.8445	PLCD3	-1.6565	FBXO30	-1.49989	ICOSLG	-1.3612	GEMIN4	-1.26682
STAT4	-2.42061	FGFR1	-2.0351	ABLIM1	-1.8404	KISS1R	-1.6562	SPI1	-1.49857	HSP90B1	-1.3609	SREBF1	-1.26616
SLC35F2	-2.40932	ATP1B3	-2.0323	STK4	-1.8389	TNKS1BP1	-1.6558	ESR2	-1.49554	ESR2	-1.3598	TANC1	-1.26416

CLUSTER 3

DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)
GMNN	-1.26084	NKG7	-1.2294	CD300C	-1.1963	ENPP4	-1.1681	ABCB1	-1.14769	HAPLN3	-1.1107	CD5	-1.09074
PIM2	-1.25838	CACNB3	-1.229	TPCN2	-1.1943	DLD	-1.167	CDC42SE1	-1.147	ZNF416	-1.1101	CPD	-1.09
MAFG	-1.25771	TNIP2	-1.2282	FAM53B	-1.1924	RAB21	-1.167	COL6A3	-1.14405	RIN2	-1.1099	VSIG10L	-1.08926
TANK	-1.25404	PLEKHA8	-1.2274	GPR137B	-1.1921	MXRA7	-1.1665	LRRN1	-1.14267	FADS2	-1.1098	NMB	-1.08886
PAF1	-1.25381	ZNF43	-1.2272	ZNF230	-1.1916	SYNGR2	-1.1661	PLEKHA5	-1.14207	TMEM11	-1.1094	MLLT4	-1.08886
ATXN7L2	-1.25378	ZNF71	-1.2269	CCDC17	-1.1904	MRPL47	-1.1659	GLT1D1	-1.1375	FZR1	-1.1092	TMEM39A	-1.08776
RAPGEF1	-1.25306	NPIPB4	-1.2269	ZNF419	-1.1876	AAK1	-1.1654	NUP54	-1.13354	PLSCR1	-1.1092	PAPOLG	-1.08769
C4orf46	-1.25217	EFNA4	-1.2265	IFITM3	-1.1853	ENPP5	-1.165	CREB3	-1.13171	RNASEK	-1.1069	ZNF222	-1.08756
MFGE8	-1.25207	CDC37L1	-1.2253	WWC3	-1.1851	AMZ2	-1.1628	PRDX1	-1.13049	SMS	-1.106	TFE3	-1.08647
NPIPB5	-1.24747	TYMP	-1.2248	FN1	-1.1846	CD63	-1.1615	ZNF584	-1.12967	CYTIP	-1.1047	DOK1	-1.08457
PAFAH1B2	-1.24646	ACTN4	-1.2237	MICAL2	-1.1844	RIT1	-1.1608	ZNF583	-1.12955	SMNDC1	-1.1043	PLCE1	-1.08363
FOXO1	-1.24614	PLAU	-1.2228	INSIG2	-1.1834	ZNF682	-1.1595	ARPP21	-1.12786	PIGA	-1.104	VPS18	-1.08265
GABARAP	-1.24516	TOP2A	-1.2217	FSD1L	-1.1829	SHPK	-1.1594	SRGAP1	-1.12712	PHC2	-1.1002	KRT6A	-1.0818
NAT6	-1.24344	GLA	-1.2192	CH507-9B2.1	-1.1825	B4GALT4	-1.1593	RP9	-1.12688	HYLS1	-1.1	EXOSC4	-1.08168
ASTL	-1.2428	RBMS2	-1.2188	ARVCF	-1.1817	ATP6V1A	-1.157	DENND3	-1.12602	WNT2B	-1.0993	POLB	-1.08069
CDK2AP1	-1.2426	NFAT5	-1.2168	MAD2L1BP	-1.1802	DOCK9	-1.1563	GSPT1	-1.12529	EID3	-1.099	DUSP11	-1.07968
TUFT1	-1.2405	AGO2	-1.2161	PDLIM1	-1.1801	MVB12B	-1.1545	PPP1R13B	-1.12383	LRRC42	-1.0976	EPS15L1	-1.07951
C18orf54	-1.24046	SLC16A10	-1.2143	RP11-309L24.4	-1.1794	HLA-DQA1	-1.1528	KPNA2	-1.12248	PTGIR	-1.0957	C1orf186	-1.07914
FLT1	-1.23733	ZNF3	-1.2113	FADS1	-1.1789	PLXNA3	-1.1524	SUV39H1	-1.11828	PIK3CG	-1.0948	BCL2L1	-1.07908
AMN	-1.23492	RP2	-1.2067	TP53I3	-1.1757	MDGA1	-1.1515	SMIM12	-1.11821	NABP1	-1.0938	GYS1	-1.07691
TCP11L2	-1.23485	AURKA	-1.2067	ZNF766	-1.1747	MSMO1	-1.1513	SRD5A1	-1.11751	SPRY2	-1.0932	MED19	-1.07531
ACOT9	-1.23292	POGLUT1	-1.2048	KCTD6	-1.1718	ZNF273	-1.1503	MCM4	-1.11687	PSMD12	-1.0929	SERPINB6	-1.0743
MTHFD1L	-1.23188	ZIK1	-1.204	TWISTNB	-1.1706	PRRG3	-1.1492	POU6F1	-1.11599	SPAG16	-1.0925	P2RX5	-1.07429
LACTB	-1.23166	MKNK2	-1.2007	TCEAL9	-1.1702	FABP5	-1.1483	KMO	-1.11584	HLA-DRB1	-1.0924	LIMK1	-1.07395
NPIPB3	-1.22971	ALG2	-1.1999	SUCNR1	-1.1692	WBP4	-1.1482	PBX3	-1.11438	SLC37A3	-1.0921		
AMPD3	-1.2294	CHML	-1.1985	ZNF613	-1.1687	FEN1	-1.148	GPSM1	-1.11425				

CLUSTER 4

DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)
GPR55	4.959339	CCR2	2.96171	THNSL1	2.62081	IRS2	2.39538	ADAM22	2.23172	PLAC8	2.08504	DAAM1	1.9778
CCR1	4.631214	LAIR1	2.95557	JUN	2.6167	NEDD9	2.39453	NPC1	2.22998	SNX18	2.08249	ASAP2	1.974259
KCNA5	4.432373	RGS18	2.95282	RPS6KA1	2.61607	TPST2	2.39452	CD247	2.22906	ETS1	2.07821	FAM172A	1.969764
FOSB	4.286952	FAM81A	2.94007	AJAP1	2.60435	HBEGF	2.38671	TMEM229B	2.22762	DOCK8	2.07746	HES1	1.964893
KANK1	4.271945	COBL	2.93027	ARL5C	2.59706	KCTD5	2.37736	RIMS3	2.2208	BRI3BP	2.07698	GLDN	1.963624
MYMX	4.227489	VAV3	2.92421	FLI1	2.59374	DUSP7	2.36398	TMEM80	2.22032	TBC1D10C	2.07146	FUT7	1.962718
CMKLR1	4.212299	AHNAK2	2.92286	NCF1	2.58336	IGFBP3	2.3633	BAHCC1	2.21886	PPARA	2.06903	PCED1B	1.961622
SNAI3	4.101785	DMXL2	2.90211	RNF125	2.58325	TMEM14A	2.35408	OBSL1	2.20997	PRR7	2.06654	KCTD12	1.961336
APLP1	4.099125	CBX4	2.89916	TULP2	2.58146	KCNA3	2.35143	KLF16	2.2085	NTHL1	2.05926	ZNF507	1.959246
TIFAB	4.041226	FOS	2.89581	FAM78A	2.57949	CPED1	2.35124	LRRK2	2.20563	GAPT	2.05688	VNN2	1.956579
RGS14	3.954203	SNAI1	2.88552	KLF10	2.57697	NDN	2.34503	RPS6KA4	2.196	METTL7A	2.0511	FGD2	1.955685
PCDHGC3	3.861863	NRP1	2.88086	ARHGEF18	2.56755	TBC1D2B	2.34355	FLT3	2.19476	ARHGAP9	2.05086	TMEM8B	1.955352
TREML2	3.832817	TIGIT	2.88033	PAPLN	2.5659	ZFP36L2	2.33778	GSE1	2.19318	BCAS4	2.05009	NOTCH1	1.955192
EGR1	3.814909	PEX11G	2.87137	MTFR2	2.55417	DISC1	2.33209	RGS19	2.19317	HIP1	2.04769	MILR1	1.950191
PIP5K1B	3.776886	ITGA4	2.87121	RIPOR2	2.55153	FCHO1	2.32772	IRF2BPL	2.19315	FMN1	2.04727	NPPC	1.942169
SIK1	3.728429	DISP2	2.85463	HRH2	2.55016	DAPK2	2.3231	UVRAG	2.18941	BEND6	2.04573	OTUB2	1.941525
DLX2	3.721787	LCN12	2.84924	TLR10	2.54952	CD300LF	2.3217	PPM1J	2.1868	SERPINE1	2.04427	MASP2	1.939022
CTB-133G6.1	3.626505	TCL1A	2.83375	MMRN1	2.54235	LILRA1	2.32079	RINL	2.18208	MMP11	2.0436	SMPD3	1.936513
KLHL33	3.541451	SIT1	2.81035	RIOX2	2.5326	RGS7	2.31769	CYTH4	2.18136	MOXD1	2.03935	SLC4A3	1.935079
CLEC4C	3.49092	SYK	2.78976	LHFPL2	2.52313	MAP3K5	2.31671	GALK1	2.18115	SLC16A7	2.039	ARHGAP12	1.934478
FAM43A	3.439006	GLCCI1	2.78606	ADRB2	2.52184	SAMHD1	2.30987	TBC1D4	2.17228	ERLIN2	2.03822	MIF4GD	1.928192
RNASE1	3.410661	LINGO3	2.78503	KIAA1683	2.51732	GRK6	2.30372	ANTXR2	2.17066	ATM	2.03178	43352	1.926902
ATP10A	3.344775	KLF2	2.78144	LCP2	2.50954	DACH1	2.30338	SLC10A1	2.16816	ITGAL	2.0316	IMPA2	1.921575
SETBP1	3.341798	CCDC88C	2.76007	TMEM63A	2.48991	PECAM1	2.2992	PIK3CD	2.16316	PEX6	2.02605	ABCD2	1.921191
VSIR	3.340062	FYB1	2.75546	ALDH5A1	2.48795	OPRL1	2.29667	ATP8A1	2.15988	TK2	2.02102	DNAJB13	1.918726
CLEC12A	3.32491	PDXP	2.74762	MAFB	2.46842	TDRKH	2.29105	SRGAP2B	2.15579	CCNB2	2.01313	NDRG3	1.918394
LCNL1	3.272143	C9orf172	2.74276	BCKDHB	2.46262	OSBPL1A	2.28477	UNC93B1	2.151	FAM19A2	2.00903	ATP13A2	1.918324
RP1-34B20.21	3.251451	TNFRSF17	2.73977	PRAM1	2.46174	PLA2G15	2.28353	RAC2	2.14993	APCDD1	2.00819	EGR3	1.91818
TRAF3IP3	3.250467	A4GALT	2.73193	GRIN1	2.4583	SLC46A3	2.27865	PDLIM2	2.14443	MYO18A	2.00654	TMEM86A	1.907606
APBB1IP	3.218591	RABL2A	2.71719	AR	2.45084	KCNH3	2.27246	UHRF1	2.14318	CACNA2D3	2.00494	MDFIC	1.9047
CUX2	3.216415	TRERF1	2.71143	CD84	2.44895	NOTCH4	2.27031	NR5A1	2.13819	CRYBG3	1.99847	IL6R	1.904427
GUCY2D	3.164238	ADCY7	2.70957	B4GAT1	2.44868	BST1	2.26145	BTG2	2.13764	GNMT	1.99568	PACRGL	1.903895
LRRC45	3.163868	RAB15	2.70495	PIM1	2.44531	CYP46A1	2.26066	ARL4D	2.13547	SRGAP2C	1.99384	ARHGAP24	1.903794
EPHA2	3.159392	CDCA7L	2.70243	ADGRG5	2.44483	ERAP2	2.2572	LRRK1	2.12804	PTK7	1.99198	CITED2	1.902131
SIGLEC14	3.096122	CCDC102B	2.69764	CD3EAP	2.44386	NIPAL2	2.25491	C6orf222	2.12368	TEX2	1.98952	RNF166	1.900924
ID1	3.088837	RGS16	2.69505	RCSD1	2.44377	POU3F1	2.25333	CEP126	2.1183	P2RY14	1.98887	TIAF1	1.898606
CNR2	3.050795	FOXJ1	2.69299	SLC9C2	2.44056	FAM129C	2.24681	TRIM14	2.11706	LBH	1.98847	ATP6V0E2	1.898441
GP5	3.035422	PAFAH2	2.67064	PTPN18	2.43931	PLXNB2	2.24515	DENND2D	2.10917	TMEM55A	1.9868	CD302	1.897004
SLC1A5	3.027547	COBLL1	2.66362	GPD1L	2.42699	RBL1	2.24455	MYBPC2	2.10855	FECH	1.98323	TATDN3	1.895996
CDKN2D	3.018609	RAG1	2.64006	NANOS1	2.42387	CUEDC1	2.24419	43161	2.09744	TMEM218	1.98233	KIAA0930	1.894206
SLC35F3	3.009377	SNX10	2.63656	SOGA1	2.40914	NR4A2	2.24064	IDH3A	2.09447	FRMD4B	1.98204	PLXND1	1.893218
TGFBR3	2.970521	E2F2	2.635	ARHGAP27	2.401	OMA1	2.23697	HEATR5B	2.09281	HHEX	1.98113	LAMP5	1.892422
KIRREL3	2.9636	CERKL	2.62516	SCN9A	2.39981	TBC1D9	2.23567	AVPR2	2.08819	NEK6	1.98003	RP11-889L3.3	1.889918

					CLUSTER 4								
DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)
IER5L	1.888718	DAB2	1.82526	VWA8	1.76562	IFFO2	1.7073	EPHB1	1.66958	TTC39C	1.62444	EMILIN1	1.583532
LYRM7	1.886612	DCPS	1.82297	POU4F1	1.76279	SLC18A2	1.70706	PTGS2	1.66908	LPGAT1	1.62373	IGSF22	1.580745
BIN2	1.883158	RSPH1	1.81947	FCER1A	1.76214	APC2	1.70675	QDPR	1.66878	USP46	1.62358	CDPF1	1.580136
TBC1D14	1.880879	SMIM5	1.81901	RERE	1.75862	RAD51AP1	1.7037	TM7SF3	1.66867	PACSIN1	1.6227	SPATA2L	1.579178
ZBTB18	1.877709	LIMD1	1.81851	SASH3	1.75674	MEF2C	1.7033	PNPLA4	1.66642	CCR5	1.62034	TCTA	1.579128
EPS8L2	1.877525	RPS6KL1	1.81843	CALHM2	1.75661	MYCBP2	1.70245	PRKCD	1.6658	MGAT4A	1.62031	TMEM182	1.578299
AFF3	1.875791	RNF213	1.81838	VWA2	1.75566	PIGK	1.70144	SORL1	1.66383	MYO9A	1.61778	C12orf66	1.577605
C2CD2	1.873632	LRRC26	1.81807	KLF13	1.7527	CYB561A3	1.70113	POLG2	1.66326	LDLRAD2	1.61685	DSN1	1.577044
PTGDS	1.87226	LDOC1	1.81616	FOXRED2	1.75108	EMB	1.7006	PAQR8	1.66255	GLO1	1.61532	CHEK2	1.573243
ARL11	1.868935	NGFR	1.81538	IKBKE	1.74228	SLC38A1	1.70025	C7orf31	1.66096	SLC37A1	1.61459	TYSND1	1.5732
ANXA2R	1.866682	CBFA2T3	1.81484	PFKFB2	1.74188	HPS3	1.6986	ARHGAP17	1.65998	FCER1G	1.61418	ZNF594	1.57316
EME1	1.86617	NOTCH3	1.80938	RASSF7	1.74131	PSD4	1.69803	CD79B	1.65971	KRI1	1.61302	CSGALNACT1	1.571502
ANKRD44	1.863976	METRN	1.80861	CTSO	1.74054	MAPKAPK3	1.697	DOCK10	1.6593	ATXN7L1	1.6104	DGKZ	1.57048
JAK2	1.86384	DHFR	1.80676	ST6GAL1	1.74023	BCL11A	1.69342	FBXO41	1.65913	NBEA	1.60724	THEM4	1.570199
AEBP1	1.860769	PTER	1.80444	VPS36	1.73997	CD164	1.69284	OSGEPL1	1.65882	THTPA	1.60451	MPEG1	1.568859
ELMSAN1	1.855011	PYCARD	1.79871	CROT	1.73877	MPIG6B	1.6914	PLCB2	1.65786	WDR81	1.60369	RUNX2	1.560398
PTPN6	1.854454	43160	1.79791	PLK2	1.73598	ZDHHC23	1.69101	C14orf159	1.65237	KLHL13	1.60041	STK11IP	1.559116
NAT8L	1.854275	PLXNA4	1.79616	ALAD	1.73312	NIN	1.68967	SNTA1	1.65172	RFLNB	1.60029	MSL2	1.558554
FAM213A	1.854115	EHMT2	1.79449	SMAD3	1.73078	PLPP1	1.68916	APOBEC3F	1.65166	POMGNT1	1.59956	TBC1D5	1.556834
SLITRK5	1.850623	SCARB1	1.7935	ZNF589	1.72949	DEF6	1.68562	EPDR1	1.6496	MOSPD2	1.5993	S100PBP	1.556288
CRIP1	1.849202	SLC2A1	1.7933	NAALAD2	1.72779	BTLA	1.68527	CPT1A	1.64752	CMTM3	1.59803	FAM160A1	1.55619
ADAMTS4	1.849086	FCRLA	1.791	CLN8	1.72475	CHURC1	1.68428	SCAI	1.64711	TECPR1	1.59765	HHLA3	1.555042
CARD11	1.846084	NREP	1.78928	SEMA4D	1.72415	PDSS2	1.68403	THRA	1.64486	UBE2E2	1.59668	ST3GAL4	1.554627
IMPACT	1.844453	VMAC	1.7846	CA8	1.72237	MARVELD1	1.6823	SLC27A3	1.64139	GATB	1.59303	WDFY4	1.554404
DHODH	1.844429	C16orf54	1.78368	TXNDC5	1.71947	TMIGD2	1.67871	TTLL12	1.64035	CETP	1.59272	DBP	1.553732
HDAC9	1.843091	GNG7	1.78234	APOBR	1.71827	OAS1	1.67797	UBE2J1	1.6401	STK17B	1.59126	GUCY1A3	1.553269
MCC	1.840186	MYO1E	1.78201	FLOT2	1.71454	TMEM144	1.67659	SIRPB1	1.63585	SIGLEC6	1.59124	TMEM107	1.551555
ZNF607	1.839793	PPM1M	1.7774	FAM221B	1.71318	SORBS3	1.6764	ARHGEF6	1.63206	TMEM242	1.5902	HACD4	1.550519
KIF17	1.838859	SYNJ2BP	1.77432	ZNF438	1.71051	FAM117A	1.67529	MMP25	1.63001	ALDH3B1	1.58987	FCMR	1.55042
SCRN1	1.836454	TMEM53	1.77337	ERMP1	1.71025	STIM1	1.67422	SLC20A1	1.62694	RCCD1	1.58941	MED12L	1.549428
PPP1R13L	1.834954	BBC3	1.77144	LYL1	1.71021	C3orf58	1.67368	PREX1	1.62592	LRRC1	1.58891		
PARP10	1.833772	P3H2	1.771	ARHGDIB	1.70923	SLC44A2	1.67222	FAN1	1.62464	RNASE6	1.5886		
SCML2	1.828339	PPM1F	1.76911	RNASEL	1.70734	COL24A1	1.67026	POLA1	1.62451	DUSP1	1.5875		
TMEM210	1.826608	ZNF469	1.76711										

					CLUSTER 5								
DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)	DEG	FC (log$_2$)
ITGB8	-7.35802	TNFRSF12A	-4.9512	NKD2	-4.2715	KHDRBS3	-3.7598	ST8SIA4	-3.52093	RGS9	-3.3157	C17orf99	-3.13554
ECEL1	-6.51225	CXCL8	-4.8359	RAMP1	-4.0276	TOGARAM2	-3.7274	RAB7B	-3.5052	ANKRD33B	-3.2748	NINJ1	-3.1196
AVP	-6.31372	C15orf48	-4.6744	IL4I1	-4.0051	KSR1	-3.7216	CLECL1	-3.48558	MACC1	-3.2643	SMARCA1	-3.09589
TNFRSF9	-5.81803	SPSB1	-4.5451	PELI1	-3.9999	LMNA	-3.6825	TNFSF4	-3.48496	NUAK2	-3.2569	AIM1	-3.08527
TRH	-5.74118	CTNNAL1	-4.4758	BCAN	-3.9921	DEPDC7	-3.6805	CACNA1G	-3.4564	SIPA1L1	-3.2176	ADTRP	-3.07417
CCR7	-5.69939	INHBA	-4.4576	LGALS3	-3.8467	WNT9A	-3.6771	DKK4	-3.44069	CD9	-3.2117	CD69	-3.04501
GPR157	-5.6783	BMP6	-4.4531	MARCKS	-3.819	B3GNT5	-3.6393	TGIF1	-3.37978	FAM222A	-3.2036	IKZF2	-3.03664
CCL22	-5.28399	NRP2	-4.41	NCMAP	-3.8152	KCNE5	-3.6232	AHR	-3.37825	NRIP3	-3.196	BIRC3	-3.02975
PALLD	-5.07311	DUSP4	-4.3881	SLC6A12	-3.7936	TNFRSF18	-3.5903	SERPINB9	-3.34639	TFPI	-3.1828	CTSL	-3.02006
BCL2A1	-5.06808												

*Relative fold-change (log$_2$ values) of DEG using non-TME samples (dLNneg) as the reference. DEG = differentially expressed genes. FC = fold-change.

Supplemental Table 5: Flow cytometry antibodies

FACS-Sorting Cocktails (Human)					
Antigen	**Fluorochrome**	**Clone**	**Company**	**Catalog No.**	**Dilution**
Live/Dead	Aqua (405 nm excitation)	n/a	Thermofisher	L34965	1:100
CD45	BUV395	HI30	BD Biosciences	563792	1:40
HLA-A2	V450	BB7.2	BD Biosciences	561344	1:30
HLA-A2	PE	BB7.2	BD Biosciences	558570	1:30
HLA-DR	APC-Cy7	L243	BioLegend	307618	1:25
CD11c	BUV395	B-ly6	BD Biosciences	563787	1:20
CD11c	APC	3.9	BioLegend	301614	1:20
CD123	PE	7G3	BD Biosciences	554529	1:30
CD303	PerCP-Cy5.5	BDCA-2	BioLegend	354209	1:20
CD134/OX40	BV421	ACT35	BioLegend	350014	1:30
CD134/OX40	APC-Cy7	ACT35	BioLegend	350022	1:30

FACS-Sorting Cocktails (Mouse)					
Antigen	**Fluorochrome**	**Clone**	**Company**	**Catalog No.**	**Dilution**
Live/Dead	Aqua (405 nm excitation)	n/a	Thermofisher	L34965	1:100
CD45	Pacific Blue	30-F11	BioLegend	103126	1:40
CD45R/B220	APC-Cy7	RA3-6B2	BioLegend	103236	1:50
CD317/BST2/ PDCA-1	PE	129c	ThermoFisher,	12-3171-82	1:30
CD11c	PE-Cy7	N418	BioLegend	117318	1:40
CD11b	FITC	M1/70	BioLegend	101206	1:50

Flow Cytometry Phenotyping Antibodies (Human)					
Antigen	**Fluorochrome**	**Clone**	**Company**	**Catalog No.**	**Dilution**
Live/Dead	Aqua (405 nm excitation)	n/a	Thermofisher	L34965	1:100
CD45	BUV395	HI30	BD Biosciences	563792	1:40
CD3	APC-R700	UCHT1	BD Biosciences	565119	1:40
CD3	PE-CF594	SP34-2	BD Biosciences	562406	1:40
CD8	BB515	RPA-T8	BD Biosciences	564526	1:40
CD8	AlexaFluor647	RPA-T8	BD Biosciences	557708	1:40
CD4	PerCP-Cy5.5	OKT4	BioLegend	317428	1:40
HLA-DR	APC-Cy7	L243	BioLegend	307618	1:25
HLA-DR	BV421	G46-6	BD Biosciences	562805	1:30
Lineage (CD3/CD14/ CD19/CD20/ CD56)	FITC	UCHT1/ HCD14/HIB1 9/ 2H7/ HCD56	BioLegend	348701	1:40
CD11c	BUV395	B-ly6	BD Biosciences	563787	1:20
CD11c	APC	3.9	BioLegend	301614	1:20
CD123	PE	7G3	BD Biosciences	554529	1:30
CD303	PerCP-Cy5.5	BDCA-2	BioLegend	354209	1:20
CD134/OX40	BV421	ACT35	BioLegend	350014	1:30
CD134/OX40	APC-Cy7	ACT35	BioLegend	350022	1:30
CD252/OX40(L)	BV421	ik-1	BD Biosciences	563766	1:20
CD275/ICOS(L)	PE-CF594	2D3/ B7-H2	BD Biosciences	564277	1:25
CD40	PE	HB14	BioLegend	313006	1:30
CD80	APC	2D10	BioLegend	305220	1:30
CD86	AlexaFluor700	2331/ FUN-1	BD Biosciences	561124	1:30
CD25	AlexaFluor488	M-A251	BioLegend	356116	1:30
CD137/4-1BB	PE-Cy7	4B4-1	BioLegend	309818	1:30
CD253/TRAIL	BV421	RIK-2	BD Biosciences	564243	1:30
CD327/Siglec-6	APC	REA852	Miltenyi Biotec	130112711	1:20
Axl	AlexaFluor700	FAB154N	R&D	108724	1:20
CD69	APC/Fire750	FN50	BioLegend	310946	1:30
CD11b	BB515	ICRF44	BD Biosciences	564517	1:30
CD14	PerCP-Cy5.5	HCD14	BioLegend	325622	1:30
CD15	AlexaFluor700	W6D3	BioLegend	323026	1:30
CD68	PE-Cy7	Y1/82A	BioLegend	333816	1:30
Tbet	PerCP-Cy5.5	4B10	BioLegend	644806	1:25
IFN-γ	APC-Cy7	4S.B3	BioLegend	502530	1:25
FoxP3	PE	259D/C7	BD Biosciences	560046	1:30
IFN-γ	BV711	B27	BD Biosciences	564039	1:25
IL-12p70	PE	20C2	BD Biosciences	559325	1:25
Granzymbe B (GzB)	AlexaFluor700	GB11	BD Biosciences	560213	1:30
GzB	FITC	GB11	BioLegend	515403	1:30

Flow Cytometry Phenotyping Antibodies (Mouse)					
Antigen	Fluorochrome	Clone	Company	Catalog No.	Dilution
CD45	BUV395	30 F11	BD Biosciences	564279	1:40
CD3	AlexaFluor700	17A2	BioLegend	100216	1:40
CD11b	FITC	M1/70	BioLegend	101206	1:50
CD11c	PE-Cy7	N418	BioLegend	117318	1:40
CD45R/B220	PerCP-Cy5.5	RA3-6B2	BioLegend	103236	1:50
CD317/BST2 PDCA-1	PE	129c	ThermoFisher	12-3171-82	1:30
CD8a	BV421	53-6.7	BioLegend	100737	1:40
CD4	APC-Cy7	GK1.5	BioLegend	100414	1:50
CD134/OX40	APC	OX86	BioLegend	119414	1:30
CD252/OX40(L)	eFluor710	RM134L	ThermoFisher	46590580	1:25
CD252/OX40(L)	PE-Cy7	RM134L	BioLegend	108813	1:20
CD103	PE-CF594	M290	BD Biosciences	565849	1:20
Ly-6G	APC	1A8	BioLegend	127614	1:25
Ly6c	FITC	HK1.4	BioLegend	128006	1:40
Gr1	APC-Cy7	RB6-8C5	BioLegend	108424	1:40
FoxP3	PE	259D/C7	BD Biosciences	560046	1:30
TNF-α	APC	MP6-XT22	BioLegend	506308	1:40
IL-12p40	PE	C15.6	BioLegend	505204	1:30
IFN-γ	PE-Cy7	XMG1.2	BioLegend	505826	1:30