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Supplemental Fig. 2| Xenium and CosMx dataset quality control and cell segmentation-related metrics.

(A) Bar plot comparing the percentage of nuclear versus non-nuclear transcripts within the Xenium and CosMx datasets. (B) Cell area plotted in μm^2 for each cell within the Xenium and CosMx dataset. (C) Representative Xenium cell segmentation visualization, displaying DAPI nuclei (white), nuclei outlines (red), cell borders (black), cells are pseudocolored by Xenium fine annotation labels. (D) Scatter plot of average transcript count per cell for genes specific to either the Xenium or CosMx (blue for Xenium, and orange for CosMx). (E,F) Number of (E) transcripts and (F) unique features detected per cell per Core or FOV within the Xenium and CosMx datasets, calculated using the complete gene panel for each platform (Xenium, 290 genes; CosMx, 1,000 genes; left) and limited to the 159 overlapping genes across both panels (right). Plotted points are categorized based on the age of FFPE blocks from which they originated. For panels B, E, and F, box and whisker plots, the band indicates the median, the box indicates the first and third quartiles, and the whiskers indicate minimum and maximum value within the upper/lower fence (upper fence= $Q3+1.5 \times IQR$ and lower fence= $Q1-1.5 \times IQR$), only outlier points are shown; Mann-Whitney, two-tailed tests. Panels E and F compared the difference in population medians between 2-, 3-, 4-, and 5-year-old samples, averaged by core or FOV, with Kruskal-Wallis rank sum statistic (h-statistic) indicated.

Supplemental Fig. 3| Using mutually exclusive genes to evaluate platform specificity. (A-C) Scatter plots of gene expression level (transcript counts per cell) for two representative mutually exclusive lineage-specific genes within (A) Xenium, (B) CosMx, and (C) scRNA-seq datasets generated from colon biopsies collected from HC and UC patients (GSE250487). Genes were selected based on cell types of interest and the overlapping genes between Xenium and CosMx panels. The mutually exclusive co-expression rate (MECR) value is listed for each scatter plot, with lower rates corresponding to greater technology specificity.

Supplemental Fig. 4| Reproducibility of Xenium replicates. (A) Scatter plot showing the gene expression level (transcript counts per cell) for all genes between Xenium replicates. (B) Cell frequency as a percent of

dataset total for fine annotations within Xenium replicates. **(C)** UMAP visualization of two integrated Xenium replicate runs, colored by fine annotations (582,188 total cells: 313,940 from replicate 1 and 268,248 from replicate 2). Xenium replicate data were obtained from different runs of different sections from same TMA block. **Supplemental Fig. 5| Xenium dataset landmark gene heatmap and correlation matrix for fine annotations, and DEGs between UC and HC.** **(A,B)** Fine cell annotation **(A)** heatmap displaying gene expression of the top 3 landmark genes and **(B)** correlation matrix in Xenium replicate 1. **(C)** Dot plot representation of a subset of genes from pseudobulk DEG analysis by coarse annotations.

Supplemental Fig. 6| GSEA of an external, publicly-available, bulk transcriptomic dataset using a CosMx transcriptomic signature associated with UC PRE biopsies. **(A)** GSEA of CosMx UC PRE spatial gene signature in an external cohort of patients and relative NES. **(B)** Number of DE genes in the UC PRE signature for Xenium and CosMx that are concordantly or discordantly expressed to the UC PRE patients from the publicly available dataset.

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Supplemental Fig. 8| Unsupervised Neighborhood enrichment analysis in Xenium FFPE colon biopsies and dot plot of neutrophil versus monocyte landmark genes. **(A,B)** Heatmaps displaying neighborhood enrichment z-scores for fine annotation cell pairs within **(A)** HC and **(B)** UC PRE biopsies. **(C)** Dot plot representation of landmark genes for the indicated subsets. For panels **A** and **B**, several values exceed the scale for visualization purposes (values greater than 200)..

Supplemental Fig. 9| Pseudobulk DE gene analysis comparing UC PRE Non-Responders (UC PRE NR) versus UC PRE Responders (UC PRE R) in the Xenium dataset. **(A)** Volcano plot of pseudobulk DE genes identified by DESeq2 with $\log_2fc > 0.4$ or < -0.4 and $q < 0.1$ in UC PRE NR vs UC PRE R. **(B)** Heatmap of expression z-scores for the indicated genes in UC PRE NR (Up/Down) relative to UC PRE R. **(C)** Representative spatial transcript scatter plots highlighting a subset of genes relatively increased in UC PRE R (left) and UC PRE NR (right). **(D)** GSEA of Xenium signatures in external cohort of patients pre-VDZ stratified by UC PRE NR and UC PRE R with relative Normalized Enrichment Scores (NES) and FDR q-value. For panel **B**, some genes are off-scale for visualization purposes, z-score set from -1 to 1.

Supplementary Table 1. Baseline demographic and clinical data for study participants. Categorical variables were analyzed by Chi-square test and continuous variables were compared using one-way ANOVA with FDR

correction or Mann-Whitney test where appropriate. ns, not significant; n/a, not applicable; pre, pre-VDZ treatment; post, post-VDZ treatment. VDZ-vedolizumab.

Supplementary Table 2. Gene panels for the different spatial transcriptomic platforms.

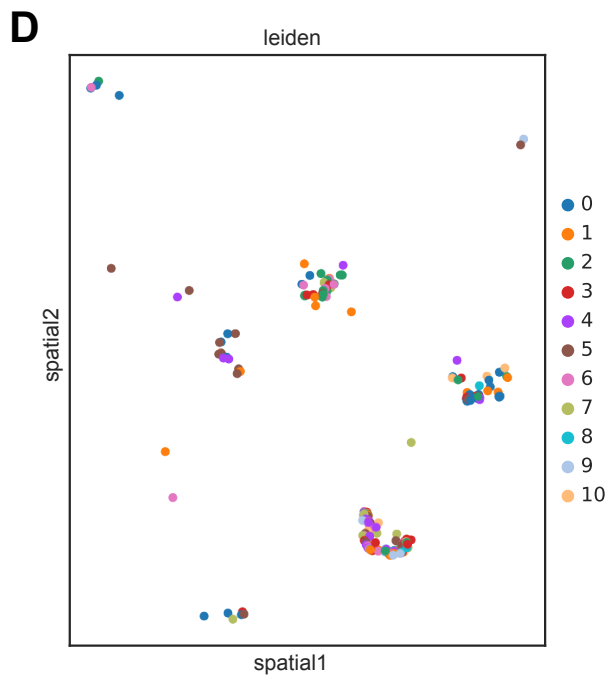
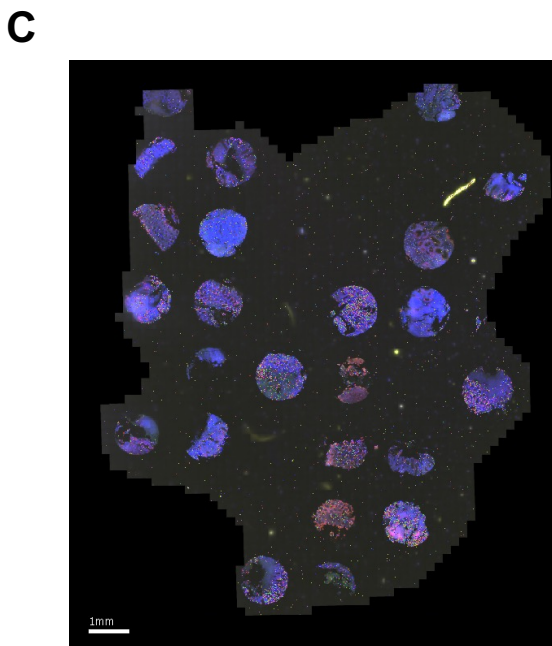
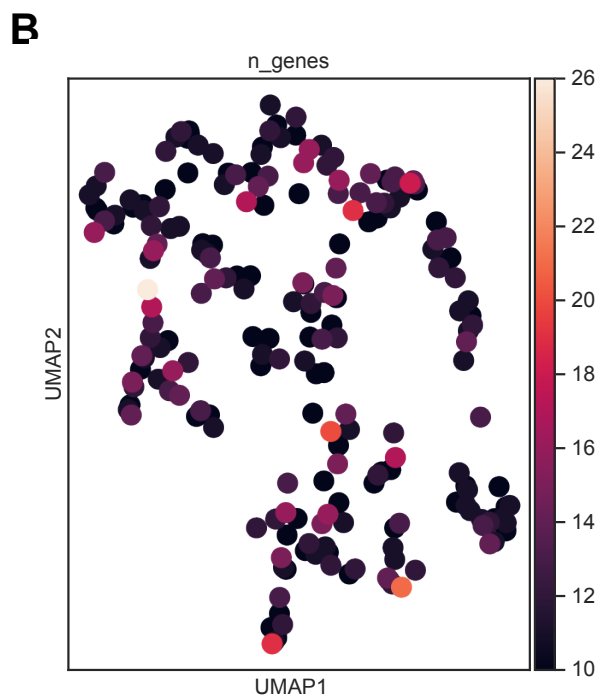
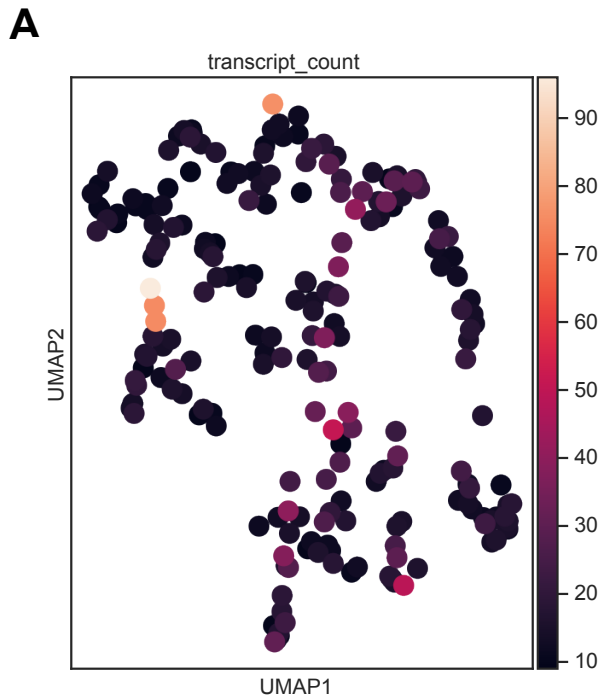
Supplementary Table 3. Summarized QC results.

Supplementary Table 4. Pseudobulk DE gene analysis of Xenium data comparing colon biopsies in UC PRE versus HC. Significance was set as $\log_2\text{fc} > 0.4$ or < -0.4 , $p\text{-adj} < 0.1$ and $\text{baseMean} > 500$.

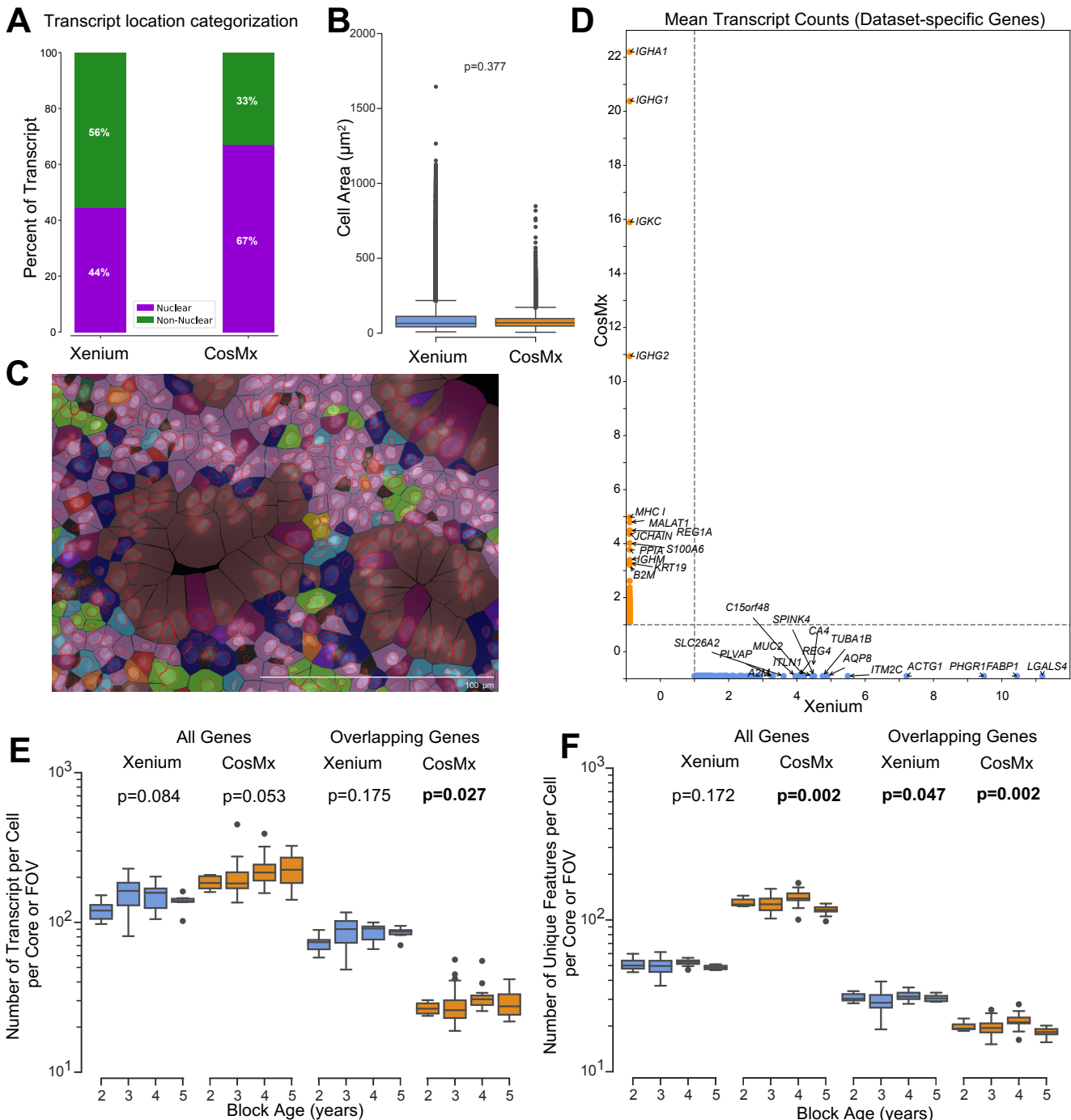
Supplementary Table 5. Pseudobulk DE gene analysis of CosMx data comparing colon biopsies in UC PRE versus HC. Significance was set as $\log_2\text{fc} > 0.4$ or < -0.4 , $p\text{-adj} < 0.1$ and $\text{baseMean} > 400$.

Supplementary Table 6. Pseudobulk DE gene analysis of Xenium data comparing colon biopsies in UC PRE Non-Responders versus UC PRE Responders. Significance was set as $\log_2\text{fc} > 0.4$ or < -0.4 , $p\text{-adj} < 0.1$ and $\text{baseMean} > 500$.

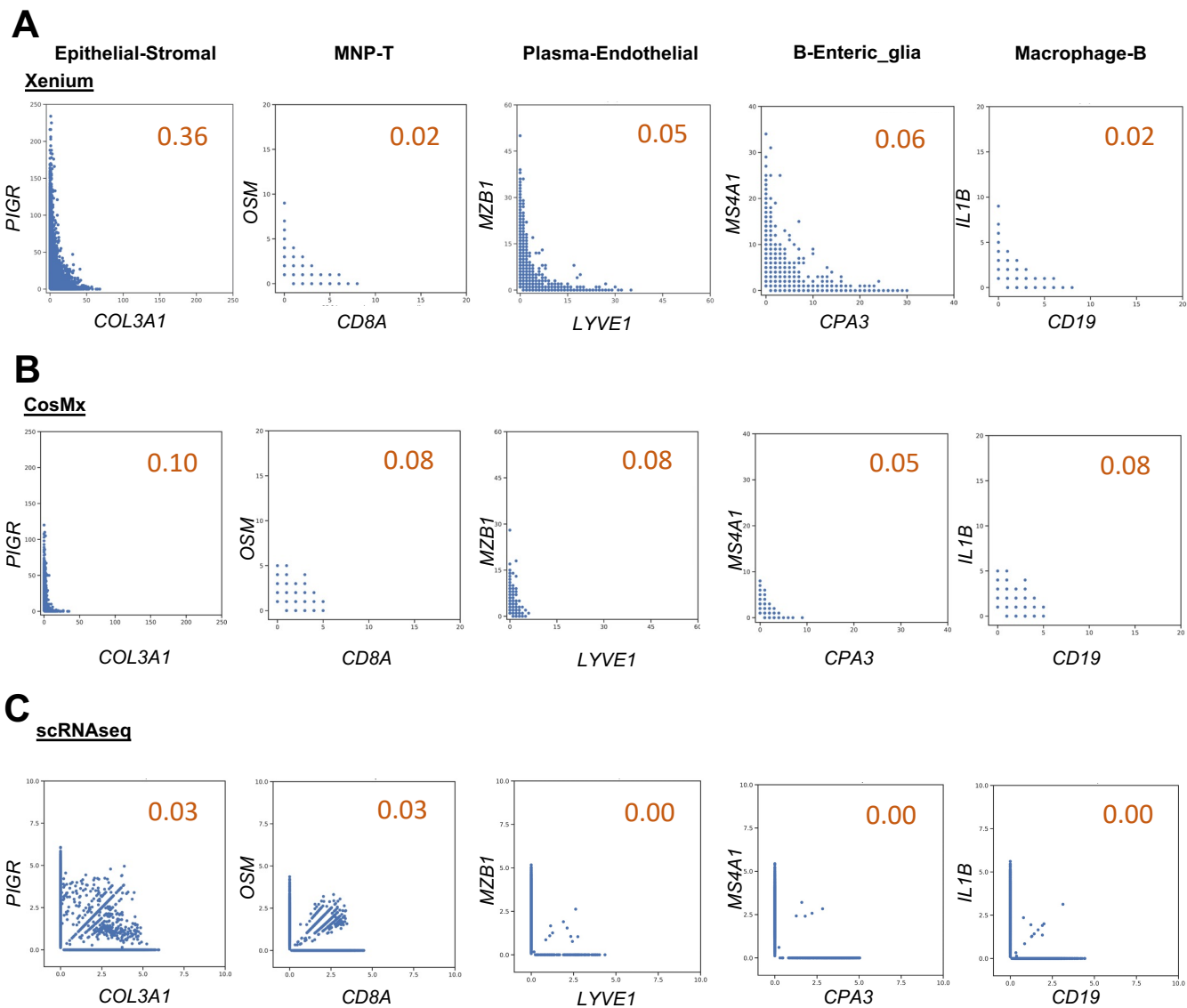
Supplementary Table 7. iSCST gene signatures used for Gene Set Enrichment Analysis (GSEA). Numeric ID, Affymetrix numeric probe identifier corresponding to each gene.



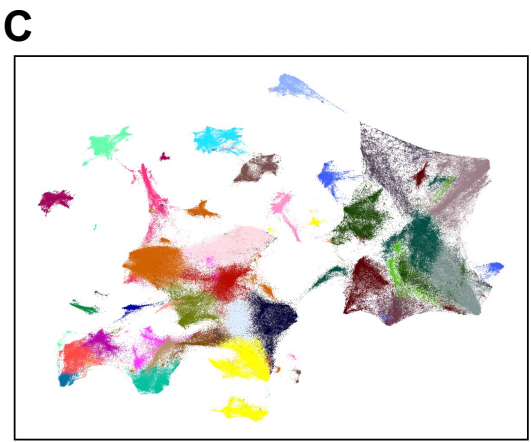
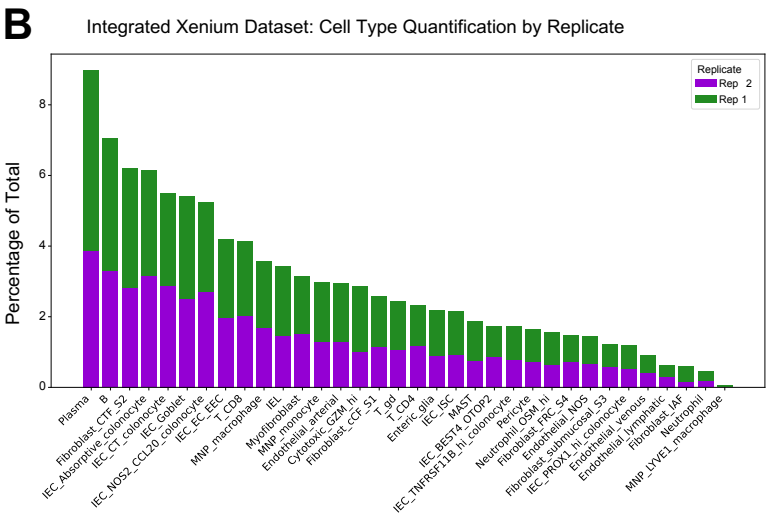
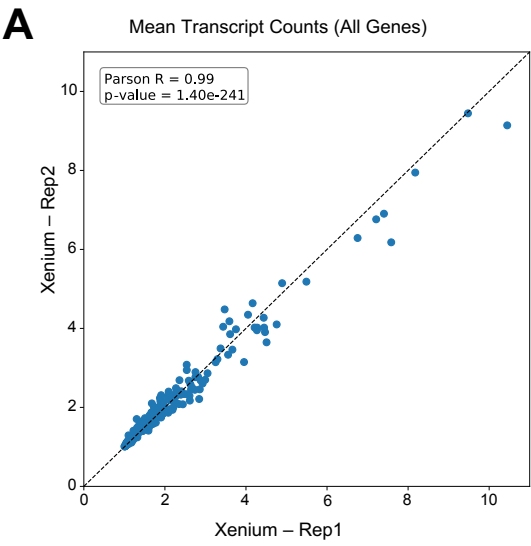
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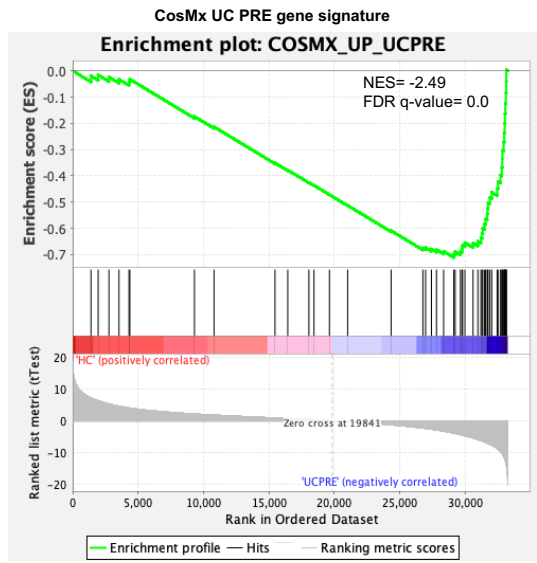
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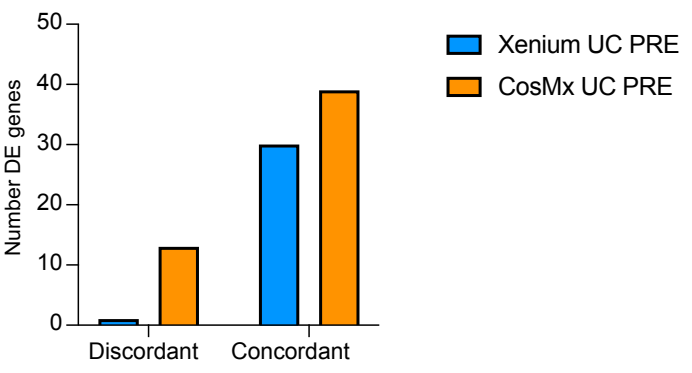
- #### Fine annotations
- B
 - Cytotoxic_GZM_hi
 - Endothelial_NOS
 - Endothelial_arterial
 - Endothelial_lymphatic
 - Endothelial_venous
 - Enteric_glia
 - Fibroblast_CTF_S2
 - Fibroblast_FRC_S4
 - Fibroblast_IAF
 - Fibroblast_cCF_S1
 - Fibroblast_submucosal_S3
 - IEC_Absorptive_colonocyte
 - IEC_BEST4_OTOP2
 - IEC_CT_colonocyte
 - IEC_EC_EEC
 - IEC_Goblet
 - IEC_ISC
 - IEC_NOS2_CCL20_colonocyte
 - IEC_PROX1_hi_colonocyte
 - IEC_TNFRSF11B_hi_colonocyte
 - IEL
 - MAST
 - MNP_LYVE1_macrophage
 - MNP_macrophage
 - MNP_monocyte
 - Myofibroblast
 - Neutrophil
 - Neutrophil_OSM_hi
 - Pericyte
 - Plasma
 - T_CD4
 - T_CD8
 - T_gd

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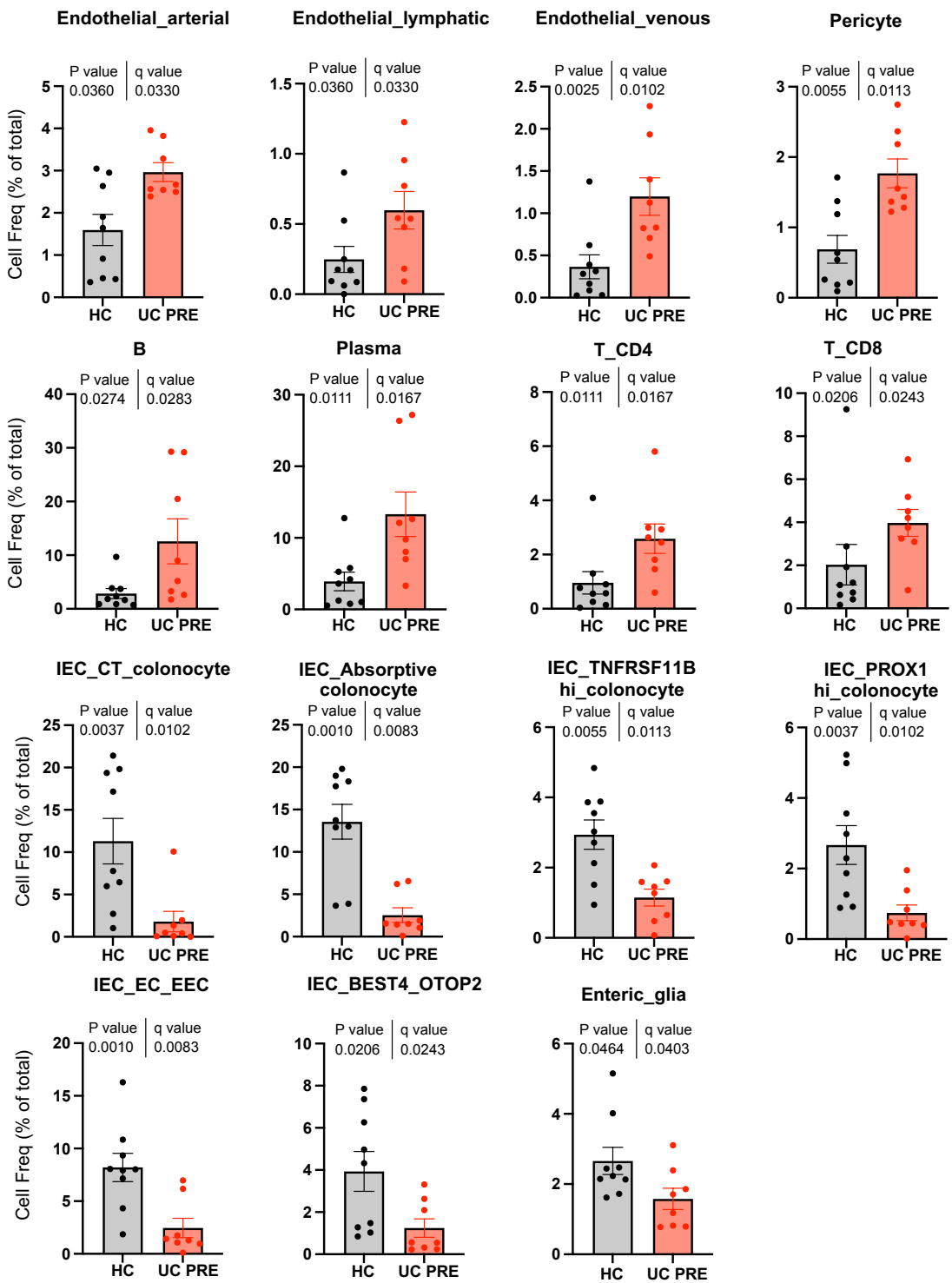
A IBD cohort (Arijs et al., 2018; GSE73661)
(HC=12; UC PRE=43)



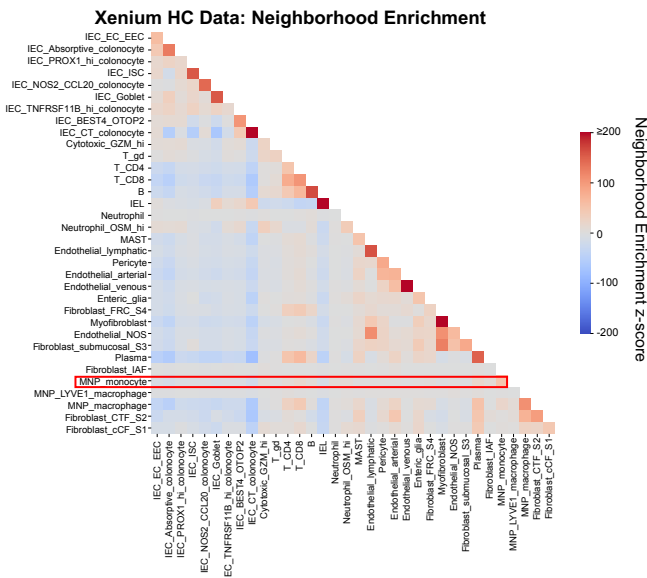
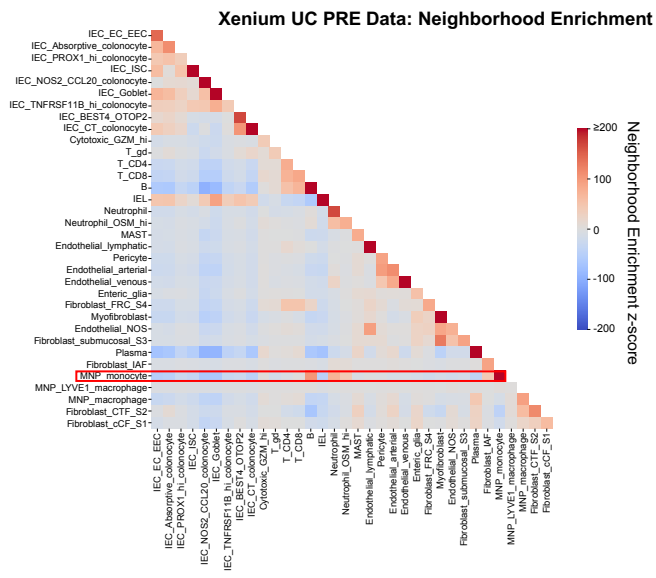
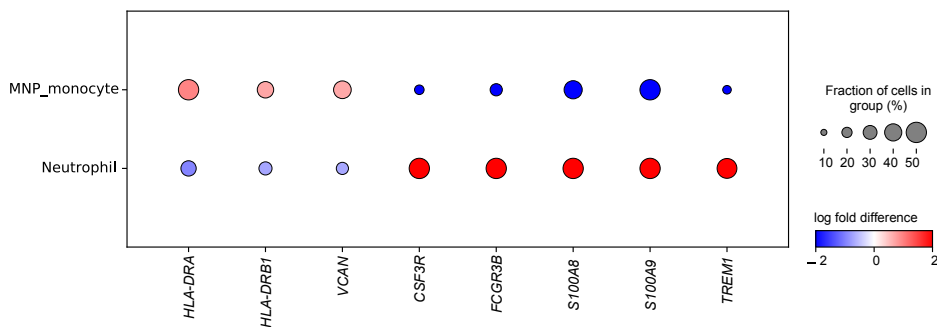
B



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A**B****C**

Supplemental Fig. 8] Unsupervised Neighborhood enrichment analysis in Xenium FFPE colon biopsies and dot plot of neutrophil versus monocyte landmark genes. (A,B) Heatmaps displaying neighborhood enrichment z-scores for fine annotation cell pairs within (A) HC and (B) UC PRE biopsies. (C) Dot plot representation of landmark genes for the indicated subsets. For panels A and B, several values exceed the scale for visualization purposes (values greater than 200).

Patient ID	Age (y)	Sex	Disease status	UC Medication	Disease duration (y)	Duration VDZ (mo)	Prior anti-TNF exposure	Montreal classification	Mayo Endoscopic subscore	Responder to VDZ
HS31	60-69	F	HC	None	n/a	n/a	No	n/a	0	n/a
HS33	30-39	M	HC	None	n/a	n/a	No	n/a	0	n/a
HS35	20-29	F	HC	None	n/a	n/a	No	n/a	0	n/a
HS37	20-29	M	HC	None	n/a	n/a	No	n/a	0	n/a
HS39	20-29	F	HC	None	n/a	n/a	No	n/a	0	n/a
HS40	60-69	M	HC	None	n/a	n/a	No	n/a	0	n/a
HS41	50-59	M	HC	None	n/a	n/a	No	n/a	0	n/a
HS42	40-49	M	HC	None	n/a	n/a	No	n/a	0	n/a
HS43	50-59	M	HC	None	n/a	n/a	No	n/a	0	n/a
HS32	20-29	F	UC	VDZ	2	4	No	E2	pre 2 ; post 0	Yes
HS34	30-39	F	UC	VDZ	1	6	No	E1	pre 2; post 0	Yes
HS36	40-49	M	UC	VDZ	3	2	Yes	E2	pre 3; post 0	Yes
HS38	50-59	M	UC	VDZ	25	7	Yes	E3	pre 2; post 0	Yes
HS44	30-39	F	UC	VDZ	2	2	No	E1	pre 1	Yes
HS45	40-49	M	UC	VDZ	14	19	Yes	E2	pre 1; post 3	No
HS46	40-49	n/a	UC	VDZ	21	2	Yes	E2	pre 3; post 3	No
HS47	30-39	M	UC	VDZ	11	5	Yes	E2	post 3	No
HS48	70-79	M	UC	VDZ	8	6	Yes	E3	pre 2; post 2	No
HS49	30-39	F	UC	VDZ	2	3	Yes	E2	pre 2; post 3	No
HS50	20-29	M	UC	VDZ	0	5	Yes	E2	pre 2; post 2	No
					3 (2-14)					
p-value	ns	ns	p<0.0001	p<0.0001	n/a	n/a	p=0.0010	ns	pre, ns; post, p=0.0016	

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Assay type	Target	Vendor
Xenium 290-plex custom panel	ACM	10x Genomics
	ABCC9	10x Genomics
	ACKR1	10x Genomics
	ACTG1	10x Genomics
	ADAMDEC1	10x Genomics
	ADGRB3	10x Genomics
	AFG2	10x Genomics
	ALOX5	10x Genomics
	ALOX5AP	10x Genomics
	ANKK2	10x Genomics
	APOE	10x Genomics
	APP	10x Genomics
	AQP8	10x Genomics
	ASCL2	10x Genomics
	ASPM	10x Genomics
	BANK1	10x Genomics
	BASP1	10x Genomics
	BATF	10x Genomics
	BEST1	10x Genomics
	C15orf48	10x Genomics
	C1QA	10x Genomics
	C1QB	10x Genomics
	C1QC	10x Genomics
	C3	10x Genomics
	C7	10x Genomics
	CA4	10x Genomics
	CA7	10x Genomics
	CACNA1A	10x Genomics
	CALD1	10x Genomics
	CAV1	10x Genomics
	CCDC80	10x Genomics
	CCL20	10x Genomics
	CCL23	10x Genomics
	CCL4	10x Genomics
	CCL5	10x Genomics
	CCL8	10x Genomics
	CCR6	10x Genomics
	CCR7	10x Genomics
	CCSER1	10x Genomics
	CD14	10x Genomics
	CD19	10x Genomics
	CD1C	10x Genomics
	CD1D	10x Genomics
	CD209	10x Genomics
	CD28	10x Genomics
	CD3D	10x Genomics
	CD3E	10x Genomics
	CD4	10x Genomics
	CD40	10x Genomics
	CD44	10x Genomics
	CD59	10x Genomics
	CD69	10x Genomics
	CD7	10x Genomics
	CD79A	10x Genomics
	CD80	10x Genomics
	CD86	10x Genomics
	CD8A	10x Genomics
	CD8B	10x Genomics
	CDH5	10x Genomics
	CEACAM1	10x Genomics
	CEACAM6	10x Genomics
	CLDN5	10x Genomics
	CLEC10A	10x Genomics
	CLEC3A	10x Genomics
	CLU	10x Genomics
	COL1A1	10x Genomics
	COL1A2	10x Genomics
	COL3A1	10x Genomics
	COL6A2	10x Genomics
	CPA3	10x Genomics
	CPE	10x Genomics
	CRYAB	10x Genomics
	CSP3R	10x Genomics
	CSPG4	10x Genomics
	CST3	10x Genomics
	CTLA4	10x Genomics
	CTSL	10x Genomics
	CXCL14	10x Genomics
	CXCR1	10x Genomics
	CXCR5	10x Genomics
	CYTH1	10x Genomics
	DDC	10x Genomics
	DUSP1	10x Genomics
	DUSP23	10x Genomics
	EPCAM	10x Genomics
	F3	10x Genomics
	FABP1	10x Genomics
	FABP2	10x Genomics
	FABP5	10x Genomics
	FCER1A	10x Genomics
	FCER1G	10x Genomics
	FCER2	10x Genomics
	FCGR3A	10x Genomics
	FCGR3B	10x Genomics
	FCN1	10x Genomics
	FLT3	10x Genomics
	FOLR3	10x Genomics
	FOXP3	10x Genomics
	FXYD5	10x Genomics
	FYB1	10x Genomics
GATA2	10x Genomics	
GATA3	10x Genomics	
GLIS3	10x Genomics	
GPR115	10x Genomics	
GSN	10x Genomics	
GUCA2A	10x Genomics	
GZMA	10x Genomics	
GZMB	10x Genomics	
GZMK	10x Genomics	
HAND2	10x Genomics	
HLA-DRA	10x Genomics	
HLA-DRB1	10x Genomics	
HMG2	10x Genomics	
HMG2	10x Genomics	
HPGD5	10x Genomics	
ICOS	10x Genomics	
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IGHA2	10x Genomics	
IGHD	10x Genomics	
IGHH	10x Genomics	
IL10	10x Genomics	
IL10RA	10x Genomics	
IL13RA2	10x Genomics	
IL18R1	10x Genomics	
IL1B	10x Genomics	
IL1R1	10x Genomics	
IL1R2	10x Genomics	
IL1RL1	10x Genomics	
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IL3RA	10x Genomics	
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IRF8	10x Genomics	
ITGAX	10x Genomics	
ITLN1	10x Genomics	
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JAK1	10x Genomics	
JAK2	10x Genomics	
JAK3	10x Genomics	
JUN	10x Genomics	
KCNK18	10x Genomics	
KIT	10x Genomics	
KLF2	10x Genomics	

KLRB1	10x Genomics	
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LAMP3	10x Genomics	
LEF1	10x Genomics	
LEFTY1	10x Genomics	
LGALS4	10x Genomics	
LGR5	10x Genomics	
LILRA4	10x Genomics	
LST1	10x Genomics	
LTA	10x Genomics	
LTB	10x Genomics	
LTBR	10x Genomics	
LYPD8	10x Genomics	
LVE1	10x Genomics	
LVZ	10x Genomics	
MAF	10x Genomics	
MCAM	10x Genomics	
MEF2C	10x Genomics	
MGLL	10x Genomics	
MKI67	10x Genomics	
MMP1	10x Genomics	
MMP3	10x Genomics	
MIRN1	10x Genomics	
MRC1	10x Genomics	
MSA1	10x Genomics	
MSA2	10x Genomics	
MSA7	10x Genomics	
MSA8	10x Genomics	
MT1G	10x Genomics	
MUC1	10x Genomics	
MUC2	10x Genomics	
MTH11	10x Genomics	
MZB1	10x Genomics	
NCAM1	10x Genomics	
NEUROD1	10x Genomics	
NFBIA	10x Genomics	
NG2	10x Genomics	
NOS2	10x Genomics	
NOTCH3	10x Genomics	
NOTCH4	10x Genomics	
NPC2	10x Genomics	
NTRK2	10x Genomics	
NUPR1	10x Genomics	
OGN	10x Genomics	
OLFM4	10x Genomics	
OSM	10x Genomics	
OSMR	10x Genomics	
OTOP2	10x Genomics	
PDGFRA	10x Genomics	
PECAM1	10x Genomics	
PHGR1	10x Genomics	
PHLDA2	10x Genomics	
PGR	10x Genomics	
PLAC8	10x Genomics	
PLP1	10x Genomics	
PLVAP	10x Genomics	
POSTN	10x Genomics	
PRDX1	10x Genomics	
PTGS2	10x Genomics	
PTPRC	10x Genomics	
PYY	10x Genomics	
QDPR	10x Genomics	
RGS4	10x Genomics	
RGCC	10x Genomics	
RGSS	10x Genomics	
RORC	10x Genomics	
RTN2	10x Genomics	
S100A11	10x Genomics	
S100A12	10x Genomics	
S100A16	10x Genomics	
S100A4	10x Genomics	
S100B	10x Genomics	
S100A9	10x Genomics	
S100B	10x Genomics	
S100P	10x Genomics	
S1PR1	10x Genomics	
S1PR5	10x Genomics	
SEC61B	10x Genomics	
SELENOP	10x Genomics	
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SOX9	10x Genomics	
SOX9	10x Genomics	
SPARC	10x Genomics	
SPARCL1	10x Genomics	
SPINK1	10x Genomics	
SPINK4	10x Genomics	
SSR4	10x Genomics	
STAT4	10x Genomics	
STMN1	10x Genomics	
TCF4	10x Genomics	
TFE3	10x Genomics	
TGFB1	10x Genomics	
TGFB1	10x Genomics	
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TINAGL1	10x Genomics	
TLE4	10x Genomics	
TMAS1	10x Genomics	
TMEM176A	10x Genomics	
TMEM176B	10x Genomics	
TNF	10x Genomics	
TNFAIP3	10x Genomics	
TNFRSF11A	10x Genomics	
TNFRSF11B	10x Genomics	
TNFRSF13B	10x Genomics	
TNFRSF17	10x Genomics	
TNFRSF1A	10x Genomics	
TNFRSF1B	10x Genomics	
TNFRSF13B	10x Genomics	
TNFRSF15	10x Genomics	
TNFRSF9	10x Genomics	
TOP2A	10x Genomics	
TPH1	10x Genomics	
TPSAB1	10x Genomics	
TPSB2	10x Genomics	
TRAC	10x Genomics	
TRAV1-2	10x Genomics	
TRDC	10x Genomics	
TRDV2	10x Genomics	
TREM1	10x Genomics	
TREM2	10x Genomics	
TRGC1	10x Genomics	
TRGC2	10x Genomics	
TRGV9	10x Genomics	
TRPM5	10x Genomics	
TUBA1B	10x Genomics	
TUBB	10x Genomics	
TYK2	10x Genomics	
TYROBP	10x Genomics	
UBE2C	10x Genomics	
VCAN	10x Genomics	
VWF	10x Genomics	
WDC2	10x Genomics	
WNT5A	10x Genomics	
XCR1	10x Genomics	
ZBTB16	10x Genomics	
ZFP98L1	10x Genomics	
MIRSCOPE	TMEM176A	Viogen
280-plex	CD4	Viogen
panel	TNFRSF17	Viogen

TRPM5 Vezgen
TNFRSF1A Vezgen
CEACAM6 Vezgen
OSM Vezgen
GZMB Vezgen
NFKBIA Vezgen
TIMP1 Vezgen
OLFM4 Vezgen
MMP2 Vezgen
AQP9 Vezgen
TGFB1 Vezgen
CD73A Vezgen
NKG7 Vezgen
SEC61B Vezgen
COL1A1 Vezgen
NFKB1 Vezgen
IL10RA Vezgen
CD69 Vezgen
LTBR Vezgen
IFNG Vezgen
KLRB1 Vezgen
GZMK Vezgen
IL18R1 Vezgen
SELL Vezgen
TNFAIP3 Vezgen
ADGRB3 Vezgen
KCNJ8 Vezgen
FLT3 Vezgen
IL13RA2 Vezgen
TREM1 Vezgen
SOX9 Vezgen
TNFSF9 Vezgen
CCR7 Vezgen
KLF2 Vezgen
TPH1 Vezgen
APOE Vezgen
PLVAP Vezgen
SEPPIN1 Vezgen
CLEC10A Vezgen
LYVE1 Vezgen
ADAMDEC1 Vezgen
REG4 Vezgen
PDGFRA Vezgen
ABCC9 Vezgen
LYZ Vezgen
VWF Vezgen
PROX1 Vezgen
TNFRSF13B Vezgen
TYROBP Vezgen
IL1B Vezgen
NOTCH3 Vezgen
CD44 Vezgen
MCAM Vezgen
MMRN1 Vezgen
LAMP3 Vezgen
LGR5 Vezgen
ITGAX Vezgen
IRF8 Vezgen
IFNAR1 Vezgen
TNFGL1 Vezgen
S100A11 Vezgen
LEFTY1 Vezgen
FABP2 Vezgen
OSMR Vezgen
GZMA Vezgen
QDPR Vezgen
GPR15 Vezgen
SLC26A2 Vezgen
BATF Vezgen
KIT Vezgen
FCER1G Vezgen
IL10RB Vezgen
S100B Vezgen
IL1RA4 Vezgen
CXCR5 Vezgen
SOX8 Vezgen
NEUROD1 Vezgen
HRGDS Vezgen
CXCR1 Vezgen
TGFB2 Vezgen
CTLA4 Vezgen
OPAS Vezgen
S100P Vezgen
SPINK1 Vezgen
COL1A2 Vezgen
TNFRSF11B Vezgen
MMP3 Vezgen
MSA48 Vezgen
NOD2 Vezgen
CD3D Vezgen
CA4 Vezgen
MEB1 Vezgen
IL7R Vezgen
COL3A1 Vezgen
S1PR1 Vezgen
TM6SF1 Vezgen
CSFG4 Vezgen
XCR1 Vezgen
INSM1 Vezgen
IL1RL1 Vezgen
CD7 Vezgen
C7 Vezgen
NOS2 Vezgen
RGSS Vezgen
PHLDA2 Vezgen
MMP1 Vezgen
CD209 Vezgen
ICOS Vezgen
SOX9 Vezgen
WCAM1 Vezgen
AZM Vezgen
BASP1 Vezgen
DUOX2 Vezgen
CD28 Vezgen
NLRP12 Vezgen
GLIS3 Vezgen
CD19 Vezgen
ITLN1 Vezgen
TMEM176B Vezgen
CD86 Vezgen
IL3RA Vezgen
ASCL2 Vezgen
OTOP2 Vezgen
F3 Vezgen
ZBTB16 Vezgen
IL21R Vezgen
CAT Vezgen
CTSL Vezgen
GATA2 Vezgen
CDH5 Vezgen
CCR6 Vezgen
JAK1 Vezgen
VCAN Vezgen
FCER2 Vezgen
APP Vezgen
IL23R Vezgen
PTPRC Vezgen
FYB1 Vezgen
CDBA Vezgen
CLEC9A Vezgen
UBE2C Vezgen
RORC Vezgen
MSA47 Vezgen
CCL20 Vezgen
HAND2 Vezgen
NTRK2 Vezgen
HLA-DRB1 Vezgen

CYTH1	Vzgen
MUC2	Vzgen
CSF3R	Vzgen
CD3E	Vzgen
CALD1	Vzgen
INAVA	Vzgen
IFNGR1	Vzgen
DUSP23	Vzgen
FCER1A	Vzgen
ACKR1	Vzgen
CD1C	Vzgen
CD1D	Vzgen
IL6R	Vzgen
MKG67	Vzgen
S100A16	Vzgen
S100A4	Vzgen
S100A8	Vzgen
S100A12	Vzgen
S100A9	Vzgen
JUN	Vzgen
PTGDS	Vzgen
FCN1	Vzgen
BEST4	Vzgen
CD40	Vzgen
MMP9	Vzgen
WFDC2	Vzgen
TREM2	Vzgen
RTKN2	Vzgen
TNFSF15	Vzgen
STMN1	Vzgen
ALOX5	Vzgen
C1QC	Vzgen
TGFBR1	Vzgen
NOTCH4	Vzgen
ASP1	Vzgen
OGN	Vzgen
TNFSF13B	Vzgen
FOXO3	Vzgen
TNFRSF1B	Vzgen
TLE4	Vzgen
GATA3	Vzgen
RGCC	Vzgen
SPINK4	Vzgen
IL2RA	Vzgen
ALOX5AP	Vzgen
JAK2	Vzgen
IFNAR2	Vzgen
TGIT	Vzgen
TRDV2	Vzgen
TRDC	Vzgen
IGHF	Vzgen
IGHD	Vzgen
CD8B	Vzgen
NLRP3	Vzgen
FXR1	Vzgen
STAT4	Vzgen
MAF	Vzgen
IL1R2	Vzgen
CCL8	Vzgen
HLA-DRA	Vzgen
NUPR1	Vzgen
CD59	Vzgen
FABP5	Vzgen
IRF7	Vzgen
MCLL	Vzgen
IFITM2	Vzgen
CD14	Vzgen
NLR4	Vzgen
C1QA	Vzgen
CRE	Vzgen
CEACAM1	Vzgen
CLU	Vzgen
CAV1	Vzgen
IFNGR2	Vzgen
IL1R1	Vzgen
PLAC8	Vzgen
LTA	Vzgen
ALR2	Vzgen
TOP2A	Vzgen
IL10	Vzgen
LTB	Vzgen
FCGR3A	Vzgen
LST1	Vzgen
HMG2	Vzgen
CCDC80	Vzgen
ZFP38L1	Vzgen
TRG1	Vzgen
DDC	Vzgen
BANK1	Vzgen
TRGV9	Vzgen
TNF	Vzgen
JAK3	Vzgen
WNT5A	Vzgen
CD80	Vzgen
MUC1	Vzgen
LEF1	Vzgen
CCSER1	Vzgen
C1QB	Vzgen
CXCL14	Vzgen
SELENP	Vzgen
TYK2	Vzgen
CRYAB	Vzgen
IL32	Vzgen
MSA41	Vzgen
POSTN	Vzgen
NPC2	Vzgen
PECAM1	Vzgen
MRC1	Vzgen
ACTG1	Vzgen
TNFRSF11A	Vzgen
CACNA1A	Vzgen
LYPD8	Vzgen
PYY	Vzgen
C3	Vzgen
CCL5	Vzgen
DUOX2	Vzgen
TRAC	Vzgen
CCL4	Vzgen
FCGR3B	Vzgen
CCL23	Vzgen
CCL18	Vzgen
IKBK6	Vzgen
MSA2	Vzgen
S1PR5	Vzgen
KLRP1	Vzgen
CLDN5	Vzgen
ALP1	Vzgen
TCF4	Vzgen
MEF2C	Vzgen
SH2D6	Vzgen

Supplementary Table 2. Gene panels for the different spatial transcriptomic platforms.

Run		Xenium	CosMx
Panel size (Num. genes; num. neg probes)		290; 20	1000; 10
		(Custom panel)	(Pre-designed panel)
Overlapping genes across panels		159	
Percent of cells that passed QC		72%	78%
Mean transcripts per cell (Sensitivity)	All genes	148	219
	Overlapping genes	85	29
Mean unique genes counted per cell (Genomic Breadth)	All genes	51	132
	Overlapping genes	31	20
Mean expression of each gene within cells	All genes	2	1.33
	Overlapping genes	2	1.3
Mean negative probe counts per cell		0.034	0.37
Mean signal detected per cell above background		59	4

Supplementary Table 3. Summarized QC results.

	baseMean	log2FoldChange	lfcSE	stat	pvalue	padj	-log10 (padj)	Significance
S100A8	1912.86507	3.877071757	0.78254345	-4.9544492	7.25E-07	0.00021035	3.67705129	yes
IGHD	555.955821	2.7995075	0.696344	-4.0202939	5.81E-05	0.00255326	2.59290428	yes
MS4A1	5393.16287	2.541605012	0.7152485	-3.5534573	0.0003802	0.00648581	2.18803551	yes
S100A9	3473.14706	2.344474824	0.69231803	-3.3868464	0.00070701	0.00891447	2.04990452	yes
TIMP1	4973.32528	2.086217495	0.52557312	-3.9694144	7.20E-05	0.00255326	2.59290428	yes
CD79A	6817.54988	1.988670369	0.53065281	-3.7475923	0.00017854	0.00363757	2.43918912	yes
C3	8969.74854	1.95141288	0.52254809	-3.7344178	0.00018815	0.00363757	2.43918912	yes
CD19	3401.9927	1.850081789	0.59046468	-3.1332641	0.00172874	0.01630356	1.78771753	yes
BANK1	4178.99064	1.823652303	0.58247153	-3.1308866	0.00174279	0.01630356	1.78771753	yes
MZB1	15536.3626	1.812298856	0.45136199	-4.0151783	5.94E-05	0.00255326	2.59290428	yes
JAK3	4521.55009	1.703751567	0.43113513	-3.9517809	7.76E-05	0.00255326	2.59290428	yes
PTGDS	7751.66236	1.625414177	0.58242248	-2.790782	0.00525809	0.03002352	1.52253846	yes
SELL	2560.14415	1.616523274	0.56725529	-2.849728	0.00437566	0.03002352	1.52253846	yes
LTB	1866.54329	1.493209523	0.53337272	-2.7995611	0.00511721	0.03002352	1.52253846	yes
S100A12	414.708353	1.403679815	0.62201356	-2.2566708	0.02402865	0.07829562	1.10626256	no
NOS2	4415.26132	1.321676825	0.44145556	-2.9939068	0.0027543	0.02218742	1.65389322	yes
IL1B	1957.75188	1.214190665	0.62098928	-1.9552522	0.05055331	0.12973858	0.86693086	no
PECAM1	9946.17504	1.142853852	0.33090956	-3.4536743	0.00055301	0.00801857	2.09590313	yes
CLU	5555.10391	1.133578759	0.44529262	-2.545694	0.01090608	0.04893374	1.3103916	yes
SSR4	10887.252	1.099170797	0.42466536	-2.5883222	0.00964447	0.04585076	1.33865343	yes
PTPRC	13970.3792	1.074416383	0.38313502	-2.8042761	0.00504297	0.03002352	1.52253846	yes
REG4	15966.2714	1.02886571	0.67728103	-1.5191119	0.12873432	0.25396567	0.59522499	no
IL7R	6618.94046	0.974229392	0.37835684	-2.5748957	0.01002703	0.0468846	1.3289698	yes
TRAC	6948.11474	0.945210701	0.43059747	-2.1951144	0.02815539	0.08675302	1.06171539	yes
BASP1	4239.58352	0.940309996	0.30325814	-3.1006917	0.00193069	0.01662429	1.77925689	yes
COL1A1	27985.0535	0.90730443	0.40001618	-2.2681693	0.02331889	0.07723413	1.11219073	yes
TNFRSF17	2792.8458	0.87596328	0.42961753	-2.0389375	0.04145627	0.11559921	0.93704514	no
ALOX5	3354.62151	0.867041813	0.30673357	-2.8266936	0.00470313	0.03002352	1.52253846	yes
MRC1	3356.91078	0.816368591	0.33015494	-2.4726832	0.0134103	0.05401369	1.26749616	yes
SPINK4	10731.9425	0.790681008	0.72035586	-1.0976256	0.27236802	0.44126663	0.35529892	no
TCF4	2331.13703	0.767445287	0.28785708	-2.6660636	0.00767452	0.03904579	1.4084258	yes
COL1A2	24033.8077	0.765825491	0.39521009	-1.9377681	0.05265152	0.13162881	0.88064905	no
HLA-DRB1	9531.98169	0.756374509	0.45318256	-1.6690283	0.09511178	0.20121698	0.69633538	no
SEC61B	2324.72837	0.747724586	0.3799327	-1.9680448	0.04906288	0.12703782	0.89606698	no
FYB1	3987.67501	0.736294259	0.37231454	-1.9776135	0.04797232	0.12647249	0.89800393	no
FCER1G	6285.04915	0.72922225	0.37980601	-1.9199861	0.05485966	0.13482458	0.87023092	no
SERPINF1	6266.924	0.721190193	0.2585434	-2.7894357	0.00528	0.03002352	1.52253846	yes
FCGR3A	1237.8205	0.710101793	0.4076122	-1.7421014	0.0814907	0.18462737	0.73370392	no
S100A11	10790.127	0.709428326	0.34734401	-2.0424372	0.04110818	0.11559921	0.93704514	no
CCL20	1862.03197	0.698841203	0.36016724	-1.9403242	0.05234031	0.13162881	0.88064905	no
CCR7	1745.05622	0.683942802	0.59985592	-1.1401785	0.25421196	0.42290132	0.37376096	no
VWF	2640.62439	0.683547581	0.29572971	-2.311393	0.02081116	0.07357857	1.13324868	yes
CD1D	1611.36803	0.676243014	0.24119119	-2.8037633	0.005051	0.03002352	1.52253846	yes
CD3D	2876.52694	0.66733552	0.34928375	-1.9105828	0.05605822	0.13661246	0.86450969	no
SPARC	16800.0698	0.666501158	0.43245795	-1.541193	0.12326982	0.24653964	0.60811324	no
IL10RA	5656.27472	0.65260346	0.30879271	-2.113403	0.03456629	0.10024223	0.99894928	no
MLP3	518.286632	0.642093989	0.58123327	-1.1047096	0.26928543	0.43883121	0.35770249	no
CD44	22491.6212	0.635630985	0.29248921	-2.1731776	0.02976696	0.08808589	1.05509365	yes
HLA-DRA	16413.3057	0.627693207	0.37933941	-1.6547008	0.09798522	0.20296937	0.69256949	no
FCER2	1164.9854	0.626284012	0.56105117	-1.116269	0.26430702	0.43550589	0.36100597	no
ITGAX	3566.65599	0.625895494	0.38019082	-1.6462667	0.09970886	0.20507495	0.68808738	no
OSMR	2661.85795	0.616225186	0.22295788	-2.7638637	0.00571214	0.03067631	1.51319695	yes
VCAN	4267.30924	0.615826417	0.34688374	-1.7753107	0.0758466	0.17596411	0.75457591	no
COL3A1	35487.2811	0.598611296	0.40345989	-1.4836947	0.13788994	0.26658722	0.57416068	no
MEF2C	3166.64943	0.595413511	0.24323126	-2.4479317	0.01436789	0.05630659	1.24944081	yes
S100P	5597.95965	0.594878565	0.60142623	-0.9891131	0.32260781	0.49500669	0.30538893	no
CTLA4	1716.01122	0.576267846	0.42670238	-1.3505147	0.17685093	0.32255831	0.49139177	no
C1QB	2214.65925	0.57351651	0.39973295	-1.4347492	0.15135859	0.28318704	0.54792662	no
CXCR5	1502.46352	0.554916287	0.60895445	-0.9112608	0.362158	0.52776794	0.277557	no
CD40	2964.34461	0.55178545	0.33124179	-1.6658087	0.09575153	0.20121698	0.69633538	no
COL6A2	9314.92282	0.523772485	0.43920322	-1.1925516	0.23304505	0.40298668	0.39470931	no
NOTCH3	2021.86666	0.51846979	0.2550454	-2.0328529	0.04206738	0.11618611	0.93484579	no
CD1C	870.394762	0.500083519	0.49480352	-1.0106709	0.31217397	0.4859094	0.3134447	no
TNFRSF1B	5545.37429	0.492326925	0.26504261	-1.8575387	0.06323454	0.15155387	0.81943298	no
ICOS	712.35705	0.488258905	0.33857912	-1.4420821	0.1492792	0.28312927	0.54801523	no
IL1R1	6092.98725	0.481839517	0.28669859	-1.6806484	0.09283124	0.20090342	0.69701267	no
ALOX5AP	1967.02909	0.468476406	0.33076371	-1.4163477	0.15667374	0.29125247	0.53573038	no
CDCC80	3139.17565	0.456909155	0.46904628	-0.9741238	0.32999506	0.5008332	0.30030689	no
C1QA	3218.33667	0.431689435	0.34505197	-1.2510853	0.21090337	0.36844565	0.43362657	no
CD28	1851.17888	0.43024337	0.38951666	-1.1045571	0.26935157	0.43883121	0.35770249	no
NFKBIA	6678.05303	0.430112392	0.3294757	-1.305445	0.19174138	0.34324074	0.46440117	no
LYZ	27013.2345	0.42383674	0.43430122	-0.975905	0.32911154	0.5008332	0.30030689	no
TNFRSF13B	1217.16313	0.412392961	0.39341779	-1.0482316	0.29453192	0.47190196	0.32614822	no
RGCC	1611.68025	0.402344956	0.23813367	-1.6895761	0.09110909	0.19865891	0.70189195	no
CAV1	3118.44421	0.384585441	0.32277211	-1.1915077	0.23345435	0.40298668	0.39470931	no
SPARCL1	10113.9213	0.369652816	0.38072271	-0.970924	0.33158612	0.5008332	0.30030689	no
CCR6	1063.59855	0.362211737	0.41738856	-0.8678047	0.38550128	0.55071611	0.25907222	no
WNT5A	3349.41961	0.349187366	0.44121659	-0.7914194	0.4286993	0.60000541	0.22184484	no
CD4	3278.25061	0.34617996	0.24901295	-1.3902087	0.16446552	0.30186709	0.52018423	no
CD80	589.995259	0.343685733	0.37686656	-0.911956	0.36179186	0.52776794	0.277557	no
ZFP36L1	12275.9423	0.343468865	0.39226995	-0.8755931	0.38125127	0.54734093	0.26174207	no
CD11D	12046.6369	0.335531377	0.42235337	-0.7944328	0.4269435	0.60000541	0.22184484	no
TGFB2	7579.67825	0.333138574	0.28998669	-1.1488064	0.2506358	0.4221352	0.37454844	no
OLFM4	25435.5281	0.314916332	0.63090143	-0.499153	0.61767161	0.7311215	0.13601045	no
GPR15	3900.81575	0.309105497	0.58515506	-0.5282454	0.59732899	0.72177253	0.14159965	no
LST1	515.700859	0.307866377	0.30134352	-1.0216459	0.30694851	0.48116253	0.3177082	no
IL3RA	870.508283	0.307005814	0.30448954	-1.0082639	0.31332779	0.4859094	0.3134447	no
C1QC	4069.13535	0.306134287	0.39341742	-0.7781412	0.43648581	0.60276611	0.21985117	no
CTSL	5683.08235	0.295792977	0.31727063	-0.9323049	0.35117896	0.51941117	0.28448872	no
F3	7352.51271	0.292489392	0.45251801	-0.6463597	0.51804645	0.65891873	0.18116814	no
CD69	1516.25797	0.286078531	0.36403299	-0.7858588	0.43195021	0.60000541	0.22184484	no
IL18R1	1253.08496	0.276143106	0.24269664	-1.1378118	0.25519907	0.42290132	0.37370696	no
TNFSF13B	1863.35862	0.272824023	0.27245712	-1.0013466	0.31665925	0.48846374	0.31116767	no
RG55	5353.96751	0.272693261	0.331521	-0.822552	0.41076281	0.58392752	0.23364106	no
FCGR3B	2307.78612	0.258865367	0.48620922	-0.5324156	0.5944382	0.72128484	0.1418932	no
CD3E	3772.72142	0.25585611	0.3414956	-0.7492223	0.45372324	0.61774526	0.20919058	no
IL1R2	177.225688	0.254478739	0.49926909	-0.5097026	0.61025985	0.72605935	0.13902788	no
JAK2	5120.8998	0.249018248	0.21399918	-1.1636411	0.24456948	0.41564604	0.38127635	no

MMP1	1314.51458	0.244594878	0.38533706	-0.6347557	0.52558779	0.66269765	0.17868457	no
MAF	9653.17113	0.241740252	0.25578591	-0.9450882	0.34461384	0.51250264	0.29030389	no
TNFAIP3	7131.71415	0.229911582	0.26169584	-0.878545	0.37964801	0.54734093	0.26174207	no
KLRB1	1985.69773	0.215872798	0.29544362	-0.7306734	0.46497865	0.62482141	0.2042441	no
MMRN1	1987.36669	0.209470394	0.35410667	-0.591546	0.55415462	0.68095272	0.16688304	no
MKI67	7800.26954	0.207285928	0.29121312	-0.7118015	0.47658772	0.63628163	0.19635061	no
ABCC9	636.055213	0.206281516	0.30954416	-0.6664042	0.5051528	0.65399247	0.18442725	no
GZMK	1222.45935	0.199227499	0.44570975	-0.4469893	0.65488277	0.76433939	0.11671376	no
MCAM	3740.74407	0.182268832	0.28161011	-0.6472382	0.51747777	0.65891873	0.18116814	no
TGFB1	20332.6947	0.165467989	0.44300208	-0.3735151	0.70876507	0.80035742	0.09671603	no
JAK1	11059.4691	0.159933609	0.28179863	-0.5675457	0.57034346	0.69788863	0.15621388	no
TYK2	5738.73775	0.130997963	0.21334874	-0.6140086	0.53920964	0.67111193	0.17320027	no
NRG7	583.09906	0.128220446	0.38985349	-0.3288939	0.74223587	0.82294613	0.08462859	no
TGFB1	4446.9934	0.115757565	0.1854311	-0.6242619	0.53245563	0.66573551	0.17669828	no
CD59	17776.8393	0.114739025	0.36018975	-0.3185516	0.75006655	0.82542311	0.08332337	no
LAMP3	3485.7638	0.111537098	0.2172795	-0.5133347	0.60771725	0.72605935	0.13902788	no
PLVAP	5503.58908	0.100715693	0.29239391	-0.3444521	0.73050632	0.81679119	0.08788896	no
IFITM2	2616.48229	0.099663191	0.25482371	-0.3911064	0.69571856	0.79746397	0.09828893	no
MUC1	8206.29814	0.094807607	0.39581826	-0.2395231	0.81070001	0.87075186	0.06010559	no
LYVE1	1537.22231	0.094490719	0.43618356	-0.2166306	0.82849621	0.88008755	0.05547412	no
IRF8	4519.44282	0.091292825	0.25308109	-0.3607256	0.7183046	0.80739664	0.09291306	no
CD8A	1127.59325	0.089263831	0.33926602	-0.2631087	0.79246682	0.86170569	0.06464104	no
FXYD5	5369.07009	0.077229423	0.23600515	-0.3272362	0.74348926	0.82294613	0.08462859	no
TUBB	8071.50028	0.072557631	0.19160592	-0.3786816	0.70492434	0.80035742	0.09671603	no
TNF	1069.46083	0.068719602	0.41367144	-0.1661212	0.86806156	0.91209367	0.03996056	no
KLF2	1876.11788	0.067079451	0.2926839	-0.2291874	0.81872329	0.87612456	0.05743415	no
CYTH1	4619.9569	0.063904798	0.28387189	-0.2251184	0.82188713	0.87627672	0.05735872	no
A2M	18885.8881	0.060866797	0.42583506	-0.1429351	0.8663414	0.92460074	0.03404576	no
S100A4	1685.74879	0.05850637	0.23621184	-0.247686	0.80437735	0.86717261	0.06189445	no
PDGFRA	6603.12943	0.051086071	0.28465802	-0.1794647	0.85757282	0.90434952	0.04366369	no
NPC2	5980.98134	0.050343408	0.19638699	-0.256348	0.79768215	0.86316352	0.06390692	no
SPINK1	10616.1579	0.04361875	0.47363258	-0.0920941	0.9266233	0.94619985	0.02401712	no
ACKR1	1261.60761	0.03260274	0.34354704	-0.0949004	0.92439396	0.94619985	0.02401712	no
STMN1	7112.84912	0.03235154	0.29810948	-0.1085223	0.91358135	0.94284197	0.02556109	no
ZBTB16	709.078541	0.022426795	0.43009456	-0.0521439	0.95841406	0.96506971	0.01544132	no
TPSB2	1488.32088	0.021534502	0.3587389	-0.0600283	0.95213306	0.96506971	0.01544132	no
CD209	3280.26477	0.003264054	0.24106837	-0.01354	0.98919701	0.98919701	0.0047172	no
CDH5	2144.0873	-0.004045773	0.25734635	0.01572112	0.98745688	0.98919701	0.0047172	no
HMGB2	7935.80976	-0.016049411	0.29463083	0.05447295	0.96555836	0.96506971	0.01544132	no
KIT	2108.29862	-0.029515672	0.26991548	0.10935153	0.91292367	0.94284197	0.02556109	no
CSF3R	1189.80923	-0.034883345	0.57737823	0.0604168	0.95182368	0.96506971	0.01544132	no
CD7	46.6169971	-0.037133241	0.33447304	0.11102013	0.91160038	0.94284197	0.02556109	no
S1PR1	1096.0719	-0.037891277	0.37594074	0.10079056	0.91971672	0.94580798	0.02419703	no
BATF	409.524264	-0.045188924	0.21545566	0.20973654	0.8338733	0.88256664	0.05425249	no
CD14	5297.90012	-0.045593991	0.2981742	0.15291058	0.87846879	0.91969657	0.03635544	no
TLE4	3245.07062	-0.053038496	0.20247918	0.26194543	0.79336351	0.86170569	0.06464104	no
STAT4	1540.00042	-0.095074739	0.23952759	0.39692605	0.69142199	0.79568404	0.09925935	no
LEF1	3583.37577	-0.109466333	0.24323861	0.45003683	0.65268389	0.76433939	0.11671376	no
GZMA	1227.09625	-0.121277875	0.32529856	0.37282021	0.70928226	0.80035742	0.09671603	no
TOP2A	3752.54684	-0.132913266	0.24951889	0.53267818	0.59425638	0.72128484	0.1418932	no
CCL4	2162.1315	-0.139184019	0.37279479	0.37335291	0.7088858	0.80035742	0.09671603	no
NOTCH4	739.349007	-0.142234533	0.32222474	0.44141406	0.65891326	0.76433939	0.11671376	no
CPA3	3586.24516	-0.146333261	0.24320614	0.60168408	0.54738445	0.67838243	0.16852541	no
TNFRSF11B	1085.42105	-0.150590658	0.33871685	0.44459157	0.65661494	0.76433939	0.11671376	no
UBE2C	1475.25515	-0.153055307	0.24525749	0.62405966	0.53258841	0.66573551	0.17669828	no
CEACAM6	23845.8847	-0.154245261	0.49276587	0.31301937	0.75426595	0.82542311	0.08332337	no
TPSAB1	676.972831	-0.154742995	0.48903784	0.31642336	0.75168119	0.82542311	0.08332337	no
IGHA2	769.55433	-0.172278342	0.36303966	0.47454414	0.63511193	0.74870919	0.12568864	no
GZMB	859.258529	-0.185799038	0.4353451	0.42678564	0.66953546	0.77356687	0.11150214	no
TMEM176A	12356.3759	-0.194352895	0.29780004	0.65262884	0.51399559	0.65891873	0.18116814	no
TIGIT	2064.10891	-0.196532574	0.38319932	0.51287298	0.60804018	0.72605935	0.13902788	no
MS4A7	5283.47913	-0.212709637	0.22244176	0.95624867	0.33894662	0.50929802	0.29302801	no
MYH11	20743.4326	-0.214850742	0.62808348	0.34207354	0.73229555	0.81679119	0.08788896	no
CLEC10A	1867.66406	-0.217331768	0.31241281	0.69565574	0.48664445	0.6428948	0.19186008	no
TMEM176B	19200.2275	-0.229330042	0.33047035	0.69395042	0.4877133	0.6428948	0.19186008	no
POSTN	6799.184	-0.241187528	0.37975855	0.63510757	0.52535826	0.66269765	0.17868457	no
CD86	2135.88046	-0.248732818	0.3168324	0.78506119	0.43241769	0.60000541	0.22184484	no
TUBA1B	57892.879	-0.249738573	0.3243354	0.77000098	0.44129931	0.60652512	0.21715121	no
ANXA2	51690.1993	-0.251112634	0.35416556	0.70902613	0.47830826	0.63628163	0.19635061	no
GATA3	338.898803	-0.256220104	0.34931743	0.7334879	0.46326091	0.62482141	0.2042441	no
APOE	2353.41664	-0.276739333	0.37908991	0.73000976	0.46538422	0.62482141	0.2042441	no
CXCL14	8732.76611	-0.277760178	0.46516198	0.59712571	0.55042346	0.67924597	0.16797293	no
TMS4F1	4506.98939	-0.290386777	0.42434747	0.68431368	0.49377711	0.64794281	0.18846332	no
TNFRSF1A	6989.81671	-0.294922097	0.31154763	0.94663567	0.34382446	0.51250264	0.29030389	no
FOXP3	506.931456	-0.296153861	0.44051069	0.67229665	0.50139486	0.65203816	0.18572698	no
SELENOP	34314.82866	-0.3299702	0.37567706	0.87833472	0.3797621	0.54734093	0.26174207	no
MUC2	12916.4213	-0.334779382	0.65797631	0.50880157	0.61089132	0.72605935	0.13902788	no
LTBR	4714.62655	-0.33737116	0.3301577	1.02184852	0.3068526	0.48116253	0.3177082	no
FCN1	684.105916	-0.347226043	0.45306938	0.76638602	0.44344665	0.60660154	0.21709649	no
ACTG1	105448.403	-0.357071893	0.2771673	1.28829013	0.19764499	0.35067859	0.45509075	no
AGR2	47284.3389	-0.369422326	0.57093239	0.64705092	0.51759899	0.65891873	0.18116814	no
QDPR	2915.60647	-0.369851475	0.21519058	1.71871593	0.08566611	0.19110132	0.71873631	no
DUSP23	915.194974	-0.387868082	0.26902734	1.44174225	0.1493751	0.28312927	0.54801523	no
OSM	540.695673	-0.38869551	0.57151941	0.68010902	0.49643543	0.64849674	0.18809221	no
TYROBP	1596.51563	-0.394821971	0.33967168	1.16236351	0.24508784	0.41564604	0.38127635	no
IFNG	487.783311	-0.395817413	0.37889083	1.04467405	0.29617364	0.47192503	0.32612698	no
TNFSF15	451.778802	-0.426436468	0.37213241	1.14592671	0.25182548	0.4221352	0.37454844	no
S100A16	8527.96765	-0.42647993	0.45902871	0.92909206	0.35284138	0.51941117	0.28448872	no
PROX1	1646.78975	-0.43845515	0.2816277	1.5568609	0.11950352	0.2406668	0.61858381	no
LEFTY1	3988.95609	-0.500070209	0.6139855	0.81446583	0.41537814	0.5876081	0.23091222	no
KLRK1	670.003887	-0.51090705	0.28489865	1.79329404	0.07292592	0.17193916	0.7646252	no
S100B	1431.59288	-0.530535892	0.23046795	2.30199424	0.0213355	0.07365826	1.13277853	yes
HMG2	3212.0311	-0.538534208	0.20022304	2.68967156	0.00715224	0.03703837	1.43134811	yes
CRYAB	2098.64151	-0.543559278	0.32490441	1.67298214	0.09433081	0.20121698	0.69633538	no
RTKN2	1858.83013	-0.547455394	0.31950076	1.71347134	0.08662586	0.19176717	0.71722573	no
IL1RL1	1153.38695	-0.549690879	0.25264318	2.17575983	0.02957322	0.08808589	1.05509365	yes
FLT3	867.918626	-0.566636898	0.36853436	1.51040707	0.13093959	0.25657081	0.59079275	no
KCNJ8	882.613362	-0.566022534	0.40292067	1.40479896	0.16008107	0.29569115	0.52916168	no
XCR1	582.63967							

MS4A2	1147.41002	-0.589241169	0.27041282	2.179043	0.02932847	0.08808589	1.05509365	yes
ASPN	1211.93258	-0.596651486	0.40157785	1.48576791	0.13734052	0.26658722	0.57416068	no
TRGC2	1582.5655	-0.601106693	0.26056558	2.30693053	0.02105869	0.07357857	1.13324868	yes
APP	28138.247	-0.616961251	0.35868978	1.72004135	0.08542493	0.19110132	0.71873631	no
IL13RA2	854.347269	-0.621057006	0.52444508	1.18421744	0.236327	0.40553154	0.39197537	no
CST3	10473.5316	-0.63099466	0.28715909	2.19736958	0.02799406	0.08675302	1.06171539	yes
HAND2	636.828897	-0.632897053	0.38077529	1.66212744	0.09648722	0.20130428	0.69614699	no
LILRA4	1838.12172	-0.635626594	0.21497609	2.95673165	0.00310919	0.02422279	1.61577591	yes
TREM1	1611.896	-0.639966607	0.61534959	1.04000493	0.29833761	0.47277545	0.32534509	no
INSM1	994.016817	-0.64477586	0.40269384	1.6011565	0.10934226	0.22174305	0.65414999	no
CPE	2511.08592	-0.647535058	0.34588864	1.87209112	0.061194	0.1478855	0.83007441	no
GSN	26004.6796	-0.64997153	0.37230866	1.74578675	0.08084802	0.18461358	0.73373636	no
IRF7	100.856079	-0.655020781	0.35584164	1.84076484	0.06565603	0.15606761	0.80668723	no
TFF3	10832.0483	-0.664245276	0.50813307	1.30722701	0.19113563	0.34324074	0.46440117	no
CXCR1	657.025772	-0.670383819	0.63427229	1.05693379	0.29054181	0.46809513	0.32966588	no
CCL5	3433.52566	-0.670668446	0.33106816	2.02577149	0.04278821	0.11695823	0.93196923	no
OGN	1294.86949	-0.691371608	0.51448883	1.34380295	0.17901211	0.32445946	0.48883956	no
ADAMDEC1	10264.2272	-0.693748814	0.47111741	1.4725561	0.14087077	0.27054651	0.56775806	no
PYY	288.419992	-0.695341775	0.40813538	1.70370375	0.08843645	0.19429219	0.71154465	no
TNFRSF11A	7263.14539	-0.719036375	0.43020082	1.67139704	0.09464328	0.20121698	0.69633538	no
NUPR1	5388.12845	-0.756354225	0.30258011	2.49968257	0.01243046	0.05224398	1.28196379	yes
LTA	791.260317	-0.771573334	0.53706366	1.43665154	0.15081703	0.28318704	0.54792662	no
KLRC2	1351.28228	-0.808269276	0.32462583	2.48984893	0.01277974	0.05294464	1.27617801	yes
SOX6	1718.78727	-0.8100739	0.26147542	3.09808816	0.00194774	0.01662429	1.77925689	yes
PLAC8	26890.5595	-0.819407735	0.41563114	1.97147823	0.0486692	0.12703782	0.89606698	no
WFD2C2	1460.19394	-0.82854165	0.64409398	1.28636764	0.19831479	0.35067859	0.45509075	no
TRGC1	907.388359	-0.831968936	0.35601342	2.33690332	0.01944421	0.06961508	1.15729668	yes
ITLN1	13676.6227	-0.841688292	0.65713417	1.28084695	0.20024743	0.35195003	0.45351899	no
SOX8	492.621655	-0.850512269	0.42612964	1.99590028	0.04594478	0.12253574	0.91173722	no
CCSER1	2486.56767	-0.851418043	0.28903669	2.94570926	0.00322215	0.02422279	1.61577591	yes
ITM2C	59915.0621	-0.862029806	0.44197187	1.95041779	0.05112634	0.13005824	0.88586212	no
TRDC	982.418259	-0.86215405	0.3107555	2.77438066	0.00553069	0.03047716	1.51602555	yes
S1PR5	221.729939	-0.863489115	0.56294302	1.53388367	0.12505827	0.24840342	0.60484243	no
NEUROD1	791.465371	-0.878235624	0.43429266	2.02222074	0.04315355	0.11695823	0.93196923	no
GLIS3	1096.79648	-0.878573281	0.31693667	2.77207833	0.00556996	0.03047716	1.51602555	yes
FABP5	12212.1062	-0.879388743	0.28386724	3.09788739	0.00194906	0.01662429	1.77925689	yes
ADGRB3	556.980907	-0.8804005	0.37013578	2.37858797	0.01737909	0.06379666	1.19520207	yes
ASCL2	1023.18462	-0.896728423	0.42958023	2.08745271	0.03684723	0.10579898	0.97551852	no
TNFSF9	233.517645	-0.920825108	0.43441774	2.11967657	0.03403333	0.09969359	1.00133275	no
CSPG4	2330.574	-0.920839821	0.40632897	2.2662421	0.02343656	0.07723413	1.11219073	yes
CCL8	795.427419	-0.92668492	0.3822066	2.42456543	0.01532672	0.05698396	1.24424735	yes
SOX9	4574.56688	-0.928899879	0.4656432	1.99487479	0.04605654	0.12253574	0.91173722	no
INAVA	4294.78486	-0.93599246	0.41195267	2.27208739	0.02308123	0.07723413	1.11219073	yes
TPH1	2162.42886	-0.95446585	0.42009332	2.27203293	0.02308452	0.07723413	1.11219073	yes
TRAV1-2	415.503525	-0.979896722	0.44623069	2.19594204	0.02809609	0.08675302	1.06171539	no
TINAGL1	3562.7049	-0.988860877	0.37468292	2.6391939	0.00831034	0.04155172	1.38141102	yes
FCER1A	1467.9427	-0.996139113	0.40953658	2.43235685	0.01500092	0.05649697	1.24797484	yes
IL10	695.611225	-0.998995837	0.45218367	2.20927007	0.02715586	0.08654066	1.0627798	yes
CLEC9A	681.956717	-1.010777522	0.38547552	2.62215753	0.0087375	0.04294705	1.36706665	yes
FOLR3	190.086772	-1.028690102	0.58152192	1.76896186	0.07690024	0.17699262	0.75204485	no
LGR5	1818.8912	-1.038843835	0.50935902	2.03951202	0.04139895	0.11559921	0.93704514	no
MGLL	6414.94017	-1.040525273	0.36287338	2.86746101	0.0041378	0.02926735	1.5336166	yes
CCL23	584.543271	-1.055967304	0.32774724	3.22189537	0.00127346	0.01407847	1.85144466	yes
NCAM1	1040.62283	-1.072975749	0.31516595	3.40447861	0.00066291	0.00873829	2.05857345	yes
RORC	2441.77639	-1.076352143	0.32447686	3.31719228	0.00090927	0.01098702	1.95912028	yes
CD8B	1926.92698	-1.076930465	0.43470723	2.47736957	0.01323548	0.05401369	1.26749616	yes
HPGDS	935.045685	-1.081433936	0.30848182	3.5056651	0.00045547	0.00733809	2.13441673	yes
CEACAM1	21259.322	-1.083730291	0.49452612	2.19145209	0.02841909	0.08675302	1.06171539	yes
TRGV9	716.779404	-1.083847352	0.38261772	2.83271603	0.00461544	0.03002352	1.52253846	yes
GATA2	2043.52493	-1.09515286	0.31568336	3.46922079	0.00052197	0.00796692	2.09870982	yes
PLP1	686.667114	-1.110634786	0.35401713	3.13723458	0.0017055	0.01630356	1.78771753	yes
CACNA1A	960.236156	-1.12006772	0.44448851	2.51990252	0.01173873	0.05039473	1.2976149	yes
NTRK2	1115.41481	-1.134323876	0.43789356	2.59041006	0.00958617	0.04585076	1.33865343	yes
TRDV2	198.094352	-1.154833903	0.47369223	2.4379414	0.01477117	0.05649697	1.24797484	no
PHLDA2	358.524149	-1.21110305	0.37839647	3.20095766	0.00136972	0.01418635	1.84812933	yes
KRT8	97907.0904	-1.255598483	0.43175457	2.90813017	0.00363597	0.02636078	1.57904176	yes
C7	2206.58325	-1.259853661	0.53363456	2.36089218	0.01823103	0.06608748	1.17988078	yes
IL32	5750.57097	-1.301140683	0.32410249	4.01459635	5.95E-05	0.00255326	2.59290428	yes
EPCAM	57971.1687	-1.312016935	0.52085126	2.51898584	0.01176934	0.05039473	1.2976149	yes
MS4A8	1287.98924	-1.313573162	0.4702177	2.79354257	0.00521342	0.03002352	1.52253846	yes
C15orf48	26739.1836	-1.314316204	0.52205713	2.51757161	0.0118167	0.05039473	1.2976149	yes
IGHE	97.0412267	-1.326356501	0.74521104	1.77984011	0.07510213	0.17564208	0.75537142	no
DUSP1	7987.84709	-1.334020115	0.54240834	2.4594388	0.01391544	0.05528052	1.25742785	yes
CA4	10499.4036	-1.355132063	0.70416733	1.92444609	0.05429869	0.1345865	0.8709985	no
TREM2	853.424568	-1.374656617	0.51063852	2.69203472	0.00710176	0.03703837	1.43134811	yes
PIGR	117128.085	-1.374798454	0.54046775	2.54371966	0.01096791	0.04893374	1.3103916	yes
LGALS4	94777.0134	-1.376957257	0.62043026	2.21935866	0.02646233	0.08526752	1.06921636	yes
CLDN5	889.083778	-1.413466752	0.43983701	3.21361484	0.00131075	0.01407847	1.85144466	yes
PHGR1	74019.8639	-1.506143806	0.61823876	2.43618471	0.0148431	0.05649697	1.24797484	yes
SH2D6	207.044499	-1.565720391	0.45609034	3.43291721	0.00059712	0.008246	2.08375646	no
FABP2	5896.1976	-1.61008423	0.56715757	2.83886579	0.00452742	0.03002352	1.52253846	yes
JUN	13975.4846	-1.68586719	0.40952534	4.11663711	3.84E-05	0.00255326	2.59290428	yes
FABP1	63313.6438	-1.777128568	0.69163101	2.56947498	0.01018528	0.0468846	1.3289698	yes
TRPM5	803.841932	-1.778431142	0.45782584	3.8845146	0.00010254	0.00270318	2.56812455	yes
CA7	1298.27157	-1.821126865	0.55630216	3.273629	0.00106176	0.01231641	1.909516	no
MTG1	237.253781	-1.935739452	0.53328129	3.62986566	0.00028357	0.00513968	2.28906358	yes
DDC	5190.05703	-1.958693357	0.49628768	3.94668944	7.92E-05	0.00255326	2.59290428	yes
OTOP2	738.768648	-1.964202761	0.66756758	2.94232798	0.00325755	0.02422279	1.61577591	yes
BEST4	551.312459	-2.154949713	0.53770077	4.00771177	6.13E-05	0.00255326	2.59290428	yes
LYPD8	8786.16714	-2.365349345	0.6323874	3.74034861	0.00018377	0.00363757	2.43918912	yes
SLC26A2	20711.8808	-2.627487213	0.67124898	3.91432583	9.07E-05	0.00262906	2.5802	yes
GUCA2A	1260.16858	-2.809367372	0.73362335	3.82944106	0.00012844	0.00310384	2.50810109	yes
AQP8	10362.8134	-2.971248595	0.99182156	2.99574914	0.00273772	0.02218742	1.65389322	yes

Supplementary Table 4. Pseudobulk DE gene analysis of Xenium data comparing colon biopsies in UC PRE versus HC. Significance was set as log2fc >0.4 or <-0.4, p-adj < 0.1 and baseMean >500.

FTSW	438.26084	-0.1812835	0.0092747	1.7056493	0.0870048	0.2781989	0.5593046	no
FDCA	435.02041	-0.11913491	0.0271288	1.8164545	0.1059915	0.3090325	0.5726382	no
PFZ	421.85338	-0.11946157	0.0644165	1.8545495	0.0935652	0.2821914	0.6491898	no
ELPDA	467.82247	-0.11951208	0.0749045	1.4825254	0.0178520	0.1800744	1.0478260	no
FFN	347.55617	-0.11966877	0.07351573	1.62779156	0.1015690	0.3038074	0.51732841	no
AEI	365.55997	-0.12047212	0.0594585	1.5948176	0.0712639	0.2422222	0.5203261	no
PHRD	548.58147	-0.1213665	0.07113551	1.7051247	0.0878448	0.2791699	0.5530345	no
TN048	614.48481	-0.12198811	0.0895241	1.481051	0.0207285	0.1394923	1.0470333	no
CLL2	390.36429	-0.1222584	0.0739717	1.6222603	0.0841433	0.2464466	0.4670333	no
MMZ	360.69683	-0.1225054	0.0642459	1.3072044	0.1989962	0.4242217	0.3794276	no
PRF8	437.77984	-0.1246841	0.068162	1.2664704	0.0388321	0.1762227	0.7447469	no
RNA	538.82042	-0.1242208	0.0691432	1.7951484	0.0724271	0.2474234	0.6075209	no
CA1	588.70748	-0.1244497	0.0749448	1.6514446	0.0807260	0.2474462	0.5305802	no
ALC	440.00084	-0.1246524	0.0623264	1.2007842	0.0444724	0.1904496	0.7168922	no
CLL81	414.42031	-0.1250433	0.0526462	0.9173471	0.0374682	0.1864008	0.9640030	no
FLD	464.87342	-0.1256718	0.0738738	1.7011488	0.0891768	0.2813801	0.5569947	no
E1A	524.69643	-0.1259077	0.0762965	1.7519242	0.0218151	0.1462268	0.8251028	no
EFN45	419.18943	-0.1262033	0.0714855	1.7814974	0.0779754	0.2444424	0.5843204	no
COL8A	255.8204	-0.1262042	0.0723976	1.741204	0.0814444	0.262778	0.5825207	no
TEP1	566.6267	-0.1262364	0.0742688	1.736622	0.028471	0.1407119	0.8541464	no
KJK	431.07888	-0.1264745	0.0502203	1.4875305	0.1387870	0.3612087	0.4471801	no
CSDE	585.88962	-0.1265407	0.0733468	1.6832638	0.0285755	0.1320703	0.8459786	no
RKX	538.62916	-0.12628078	0.0672493	1.908728	0.0555637	0.2142203	0.66913704	no
NDF4A2	470.24504	-0.1268470	0.0574845	1.3335345	0.0171311	0.1121528	0.94064943	no
NLRP3	387.81816	-0.1289200	0.0584212	1.2871485	0.0288848	0.1478719	0.8304117	no
COE	355.01918	-0.1295107	0.0484463	1.2428165	0.1740071	0.141225	0.3841281	no
IFP2	418.91515	-0.1297144	0.0818833	1.5886717	0.1120781	0.132615	0.4952829	no
BEK	448.70005	-0.1311224	0.0816833	1.4823962	0.1348178	0.1883257	0.4464628	no
TNFRSF14	665.07723	-0.1322691	0.107033	1.2867765	0.1212078	0.4820135	0.4681629	no
TNFRSF4	509.18427	-0.1322426	0.0647632	1.9058946	0.0947887	0.2142203	0.66913704	no
E1B	514.78229	-0.1324762	0.0707351	1.3050193	0.1708615	0.1807768	0.8096903	no
TNFRSF1A	670.31241	-0.1324754	0.0900126	1.3384774	0.1802404	0.1430034	0.88412814	no
APC1	670.81892	-0.1328724	0.054446	1.5487796	0.1160151	0.1387762	0.4700819	no
EFN82	331.12378	-0.1329129	0.0507313	1.4188122	0.1568103	0.1807768	0.8096903	no
TGFB1	548.5125	-0.1331473	0.0811288	1.5491963	0.1212415	0.1406006	0.4477402	no
TEP2	517.76962	-0.1347818	0.081622	1.3662891	0.1172427	0.1601168	0.4480916	no
PCPFA	530.26681	-0.1349566	0.1034011	1.5006512	0.1593246	0.442137	0.3724765	no
TEP4	381.02369	-0.13689105	0.0747107	1.6022084	0.062474	0.2088077	0.6471047	no
DOC	584.72187	-0.1362854	0.084674	1.6648488	0.0496927	0.2069074	0.5241168	no
FLN	535.55071	-0.1369438	0.0592651	1.4869349	0.0142828	0.0895716	1.0479292	no
WIF1	565.11970	-0.1370255	0.0679238	1.2558326	0.0434343	0.178477	0.47441712	no
FALP3	1650.48138	-0.1370255	0.0785208	1.7793488	0.0751765	0.230032	0.6200754	no
INH	586.96754	-0.1407403	0.0695111	1.3247808	0.0110048	0.1424684	0.9400703	no
COL3A3	445.87371	-0.1420757	0.0730458	1.7766487	0.0737227	0.250032	0.6200754	no
ACT1	402.34027	-0.1420989	0.0730458	1.7766487	0.0737227	0.250032	0.6200754	no
FAM2P	412.34473	-0.14118673	0.0730458	1.7766487	0.0737227	0.250032	0.6200754	no
ITAC	488.07018	-0.1418164	0.0696847	1.2027114	0.024084	0.1384484	0.8173038	no
MFSD9	527.51678	-0.1423573	0.0707011	2.0071041	0.0448815	0.1917681	0.7117688	no
IL1RA	475.61481	-0.1430949	0.0739972	1.9512048	0.0512256	0.2044201	0.6884917	no
ICM1	621.74248	-0.1444774	0.0726718	1.8815031	0.0468461	0.1633234	0.7822329	no
ATA	478.85858	-0.14484075	0.0596972	1.5983919	0.0012871	0.0781093	1.0732168	no
AB2	608.22556	-0.14411808	0.0748025	1.6244243	0.0417821	0.1248411	0.8727033	no
HBR2	402.34033	-0.1472608	0.0482397	1.7584887	0.0737915	0.250032	0.6200754	no
IL13	467.82247	-0.1485487	0.0695111	1.3247808	0.0110048	0.1424684	0.9400703	no
DMRT	621.80949	-0.1490242	0.074203	2.4001008	0.0018884	0.0781093	1.0732168	no
IL10P1	578.7042	-0.1491361	0.0818833	1.5886717	0.1120781	0.132615	0.4952829	no
MTFR	373.29207	-0.1491848	0.0414458	1.8181874	0.0813346	0.2343335	0.6307251	no
MBP	448.80884	-0.1512741	0.0837204	2.2119118	0.0209903	0.1440331	0.8462822	no
ITGB2	474.47171	-0.1515237	0.0262964	1.2618185	0.0488817	0.1644156	0.80180714	no
FRF2	588.85781	-0.1517129	0.0713481	1.8789527	0.0308289	0.1711548	0.74913504	no
MLL2	312.14533	-0.1521222	0.0607133	1.8713283	0.0420727	0.2881328	0.54462208	no
NLRP2	393.96287	-0.1522833	0.0635362	1.7850453	0.0475292	0.250032	0.6200754	no
E1T	477.23337	-0.1538816	0.0696277	1.1023897	0.0185513	0.1448819	0.83204945	no
IL1RL1	282.15151	-0.1538833	0.0739629	1.9064154	0.0462009	0.1633234	0.7822329	no
IL1RD3	324.44677	-0.1540728	0.0695111	1.3247808	0.0110048	0.1424684	0.9400703	no
TNFRSF3	370.34441	-0.15399152	0.0695111	1.3247808	0.0110048	0.1424684	0.9400703	no
NLRP1	399.18165	-0.1547409	0.0542519	1.810249	0.0718671	0.2413191	0.6174738	no
MSC1	467.2358	-0.1560278	0.0460542	1.4307765	0.015068	0.0696842	1.0120847	no
ABL1	483.88816	-0.1560288	0.0292144	1.4939184	0.0138471	0.080718	1.0478042	no
EFNB4	434.01338	-0.15692078	0.0707565	1.2520712	0.0242674	0.1334484	0.81473004	no
PLTGL2	448.07778	-0.1568813	0.0709114	0.9179668	0.0171481	0.1791638	0.9433068	no
NTRK2	248.21481	-0.1600864	0.0788828	1.2039815	0.0437020	0.1917681	0.7117688	no
SPRY3	493.47028	-0.1605783	0.0618251	1.8464508	0.0623134	0.2207144	0.64832069	no
FZD5	714.71084	-0.1610252	0.1092134	1.4426014	0.0211694	0.1460309	0.8303477	no
EFNB1	488.49946	-0.1622881	0.0414458	1.8181874	0.0813346	0.2343335	0.6307251	no
CELSR2	447.02715	-0.1625734	0.061320	1.5745465	0.0100312	0.0603174	0.9682523	no
LYN	507.8622	-0.1631177	0.0642134	1.4006606	0.0107079	0.085718	1.0478042	no
LEP11	717.51281	-0.1644268	0.1492627	1.129186	0.286651	0.6881777	0.3024863	no
HEP1	503.71012	-0.16451813	0.0592651	1.7782891	0.0758884	0.250032	0.6200754	no
AEI2	567.2415	-0.16451813	0.0592651	1.7782891	0.0758884	0.250032	0.6200754	no
APC2	372.20204	-0.1658843	0.0076201	1.8991766	0.0833968	0.2818721	0.5503248	no
ACE	389.19398	-0.1668710	0.020787	1.4031615	0.071823	0.1786071	1.13746432	no
ELANE	686.27418	-0.1688712	0.0460436	1.6058197	0.0018113	0.0781093	1.0732168	no
PRN13	520.50978	-0.1698712	0.0460436	1.6058197	0.0018113	0.0781093	1.0732168	no
SCY4	296.79017	-0.1678462	0.0284111	1.6038197	0.0738275	0.2413191	0.6174738	no
PCP	578.8422	-0.1684194	0.0826232	1.4282499	0.0151285	0.0826232	1.0212847	no
SPR	443.62843	-0.1685008	0.0414458	1.8181874	0.0813346	0.2343335	0.6307251	no
IL13RA2	443.62843	-0.1685008	0.0414458	1.8181874	0.0813346	0.2343335	0.6307251	no
IL13RA1	443.62843	-0.1685008	0.0414458	1.8181874	0.0813346	0.2343335	0.6307251	no
IL13RA3	443.62843	-0.1685008	0.0414458	1.8181874	0.0813346	0.2343335	0.6307251	no
IL13RA4	443.62843	-0.1685008	0.0414458	1.8181874	0.0813346	0.2343335	0.6307251	no
IL13RA5	443.62843	-0.1685008	0.0414458	1.8181874	0.0813346	0.2343335	0.6307251	no
IL13RA6	443.62843	-0.1685008	0.0414458	1.8181874	0.0813346	0.2343335	0.6307251	no
IL13RA7	443.62843	-0.1685008	0.0414458	1.8181874	0.0813346	0.2343335	0.6307251	no
IL13RA8	443.62843	-0.1685008	0.0414458	1.8181874	0.0813346	0.2343335	0.6307251	no
IL13RA9	443.62843	-0.1685008	0.0414458	1.8181874	0.0813346	0.2343335	0.6307251	no
IL13RA10	443.62843	-0.1685008	0.0414458	1.8181874	0.0813346	0.2343335	0.6307251	no
IL13RA11	443.62843	-0.1685008	0.0414458	1.8181874	0.0813346	0.2343335	0.6307251	no
IL13RA12	443.62843	-0.1685008	0.0414458	1.8181874	0.0813346	0.2343335	0.6307251	no
IL13RA13	443.62843	-0.1685008	0.0414458	1.8181874	0.0813346	0.2343335	0.6307251	no
IL13RA14	443.62843	-0.1685008	0.0414458	1.8181874	0.0813346	0.2343335	0.6307251	no
IL13RA15	443.62843	-0.1685008	0.0414458	1.8181874	0.0813346	0.2343335	0.6307251	no
IL13RA16	443.62843	-0.1685008	0.0414458	1.8181874	0.0813346	0.2343335	0.6307251	no
IL13RA17	443.62843	-0.1685008	0.0414458	1.8181874	0.0813346	0.2343335	0.6307251	no
IL13RA18	443.62843	-0.1685008	0.0414458	1.8181874	0.0813346	0.2343335	0.6	

	baseMean	log2FoldChange	lfcSE	stat	pvalue	padj	$-\log_{10}(q\text{-value})$	Significance
MMP1	4356.24289	3.41523231	0.97080174	3.51795035	0.00043489	0.01709684	1.76708418	yes
MMP3	1673.18929	2.7423359	1.04598916	2.6217632	0.00874762	0.0626411	1.20314041	yes
MS4A1	5393.16287	2.57076258	0.95200461	2.70036778	0.00692629	0.05783023	1.23784507	yes
BANK1	4178.99064	2.22221574	0.74315608	2.99024095	0.00278757	0.03562572	1.4482364	yes
CD19	3401.9927	2.08618451	0.74763838	2.79036573	0.00526485	0.05089358	1.29333699	yes
CCR7	1745.05622	2.05465648	0.81784489	2.51228136	0.01199534	0.076209	1.11799376	yes
CXCR5	1502.46352	2.00830911	0.81341173	2.46899454	0.01354933	0.07918847	1.10133805	yes
FCCR2	1164.9854	1.96605834	0.74627599	2.63449228	0.00842632	0.06264113	1.20314041	yes
SELL	2560.14415	1.81666133	0.73396255	2.47514171	0.01331833	0.07918847	1.10133805	yes
ZBTB16	709.078541	1.7551234	0.53162473	3.30143296	0.00096192	0.02363953	1.62636116	yes
CD1C	870.394762	1.73887084	0.64302203	2.7042166	0.00684656	0.05783023	1.23784507	yes
IL1R2	177.225688	1.73802411	0.68142389	2.55057703	0.01075448	0.07088177	1.14946544	no
IGHD	555.95821	1.63342091	0.96545353	1.69186902	0.09067095	0.26282945	0.58032597	no
OSM	540.695673	1.51049856	0.80321953	1.88055507	0.06003247	0.19343795	0.71345831	no
CCR6	1063.59855	1.43849137	0.52601261	2.73470892	0.00624355	0.05658214	1.24732067	yes
LTB	1866.54329	1.43458494	0.70964458	2.02155414	0.04322243	0.15657365	0.80528132	no
LTA	791.260317	1.43269229	0.74761231	1.91635728	0.05531963	0.18025499	0.7441127	no
CD69	1516.25796	1.43060727	0.4711908	3.03615282	0.00239618	0.03474459	1.45911277	yes
TREM1	1611.896	1.39068068	0.85440512	1.62765957	0.10359709	0.27861496	0.55499557	no
DUSP1	7987.84709	1.35970994	0.74104759	1.83484835	0.06652816	0.20308597	0.69232008	no
S1PR1	1096.07189	1.31159152	0.51232586	2.56007283	0.01046502	0.07057062	1.15133027	yes
PTGDS	7751.66235	1.30609567	0.84667142	1.54262402	0.12292203	0.2921917	0.53433212	no
FOLR3	190.086772	1.2929175	0.86339402	1.49748258	0.13426774	0.3018422	0.52022005	no
S100A12	414.708353	1.26764323	0.87080574	1.45571299	0.14547198	0.32128204	0.49311355	no
CLU	5555.10391	1.25462836	0.64012069	1.95998721	0.04999729	0.17201781	0.7644266	no
ALOX5AP	1967.02909	1.25363105	0.42166159	2.97307384	0.00294834	0.03562572	1.4482364	yes
C3	8969.74854	1.24566561	0.76643811	1.62526574	0.10410595	0.27861496	0.55499557	no
S1PR5	221.729939	1.19289581	0.8343949	1.42965377	0.15281642	0.33300625	0.47754761	no
S100A8	1912.86507	1.18893337	1.01388688	1.17264894	0.24093662	0.41344153	0.3835859	no
TRDV2	198.094352	1.15827169	0.70533365	1.64216139	0.10055656	0.27510757	0.56049745	no
IL3RA	870.508282	1.15489548	0.35083364	3.2918607	0.00099527	0.02363953	1.62636116	yes
ICOS	712.357049	1.14549785	0.43328483	2.64375248	0.00819926	0.06257329	1.203611	yes
CXCR1	657.025771	1.11373192	0.89532389	1.24394305	0.21352052	0.40050485	0.39739222	no
CTLA4	1716.01121	1.10990554	0.54576565	2.03366689	0.04198519	0.15657365	0.80528132	no
CD28	1851.17888	1.10502101	0.53587772	2.0620768	0.03920042	0.1525121	0.8166957	no
FLT3	867.918626	1.08780692	0.51245277	2.12274569	0.03377517	0.13773601	0.86095251	no
IL10	695.611225	1.06027296	0.66311524	1.59892715	0.10983679	0.27861496	0.55499557	no
CD7	46.6169971	1.05645492	0.45127521	2.34104353	0.01922993	0.09962906	1.00161399	no
HAND2	636.828897	1.04846807	0.49761037	2.10700608	0.03511705	0.1395061	0.85540681	no
TNF	1069.46083	1.03661032	0.55798183	1.85778509	0.06319954	0.19713568	0.70523476	no
ITGAX	3566.65599	1.03480904	0.34736542	2.97902146	0.00289171	0.03562572	1.4482364	yes
TNFSF9	233.517645	1.03395086	0.64472639	1.60370489	0.10877912	0.27861496	0.55499557	no
GZMK	1222.45935	1.00616956	0.64451838	1.56111849	0.1184958	0.28636484	0.54308031	no
ABCC9	636.055213	0.99795395	0.42726247	2.33569301	0.01950725	0.09962906	1.00161399	yes
CD80	589.995259	0.99615144	0.45187814	2.20446922	0.02749136	0.12457024	0.90458571	no
IL7R	6618.94046	0.99241457	0.51755142	1.9175188	0.05517206	0.18025499	0.7441127	no
KLF2	1876.11788	0.97479619	0.39898545	2.44318732	0.01455818	0.0827818	1.08206513	yes
GATA3	338.898803	0.96339833	0.50006999	1.92650897	0.05404085	0.18025499	0.7441127	no
IL18R1	1253.08496	0.95463137	0.29733514	3.21062405	0.00132447	0.04006003	1.61967957	yes
PTPRC	13970.3792	0.94880185	0.51384207	1.84648536	0.06482176	0.19998204	0.69900901	no
CDB8	1926.92689	0.93983684	0.64191522	1.46411364	0.1431629	0.31936339	0.49571487	no
TNFRSF13B	1217.16313	0.93819237	0.56730659	1.65376602	0.09817506	0.27510757	0.56049745	no
ACKR1	1261.60761	0.92205745	0.49366497	1.86777978	0.06179277	0.19692202	0.70570571	no
JAK3	4521.55009	0.9179017	0.57851788	1.58664362	0.11259338	0.27907762	0.554275	no
TREM2	853.425468	0.89808523	0.75314965	1.19243929	0.23308904	0.41144595	0.38568721	no
IL1B	1957.75188	0.8847266	0.82825214	1.06818511	0.28543702	0.45987076	0.33736421	no
TRAC	6948.11473	0.87758204	0.62512999	1.4038393	0.16036671	0.3384902	0.4704539	no
TNFSF15	451.778802	0.87166786	0.50703726	1.71913967	0.08558894	0.25071509	0.60081953	no
CCL4	2162.1315	0.85204854	0.53312085	1.59822775	0.1099923	0.27861496	0.55499557	no
TIGIT	2064.10891	0.84057996	0.52106889	1.61318394	0.10670455	0.27861496	0.55499557	no
IFNG	487.783311	0.83190631	0.54705245	1.52070665	0.12833347	0.29773365	0.52617208	no
ADGRB3	556.980907	0.83071509	0.54559302	1.5225911	0.12786104	0.29773365	0.52617208	no
FCN1	684.105916	0.81193855	0.64093968	1.26679401	0.20522895	0.40050485	0.39739222	no
MMRN1	1987.36669	0.80819908	0.50039553	1.61512049	0.10628461	0.27861496	0.55499557	no
TRAV1-2	415.503525	0.80491034	0.66661089	1.20746653	0.22725253	0.41144595	0.38568721	no
KCNJ8	882.613362	0.78018257	0.60164458	1.29674995	0.19471724	0.38915281	0.40987983	no
SERPINF1	6266.924	0.76678158	0.35341939	2.16960813	0.03003655	0.12810694	0.89242734	no
NOTCH4	739.349007	0.76655003	0.46664964	1.64266713	0.10045182	0.27510757	0.56049745	no
CCDC80	3139.17565	0.76099121	0.64354512	1.1824986	0.23700792	0.41144595	0.38568721	no
SOX8	492.621655	0.75053481	0.63652724	1.1791087	0.23835489	0.41144595	0.38568721	no
CLEC9A	681.956717	0.74862995	0.57308031	1.30632642	0.19144157	0.38554206	0.41392824	no
RTKN2	1858.83013	0.73032349	0.46440622	1.57259627	0.11581233	0.28462353	0.5457292	no
LYVE1	1537.22231	0.70698892	0.56229526	1.25732683	0.20863531	0.40050485	0.39739222	no
CD3E	3772.72142	0.7020892	0.49637746	1.41442604	0.15723685	0.33528446	0.47458658	no
STAT4	1540.00042	0.69899308	0.33006453	2.11774669	0.03419653	0.13773601	0.86095251	no
PYY	288.419992	0.68242214	0.61560274	1.10854304	0.26762736	0.4460456	0.35062074	no
NTRK2	1115.41481	0.68076118	0.63520649	1.07171636	0.28384745	0.45986458	0.33737004	no
BASP1	4239.58352	0.67774494	0.40166368	1.68734437	0.09153715	0.26282945	0.58032597	no
CSPG4	2330.574	0.66435397	0.604946	1.09820376	0.27211553	0.4509343	0.34588673	no
CD40	2964.34461	0.6577479	0.43156979	1.52408234	0.12748814	0.29773365	0.52617208	no
FYB1	3987.67501	0.65261179	0.53160444	1.22762668	0.21958714	0.40050485	0.39739222	no
MT1G	237.253781	0.63545611	0.80697033	0.78745907	0.43101318	0.61765959	0.20925081	no
TIMP1	4973.32528	0.62874391	0.77036966	0.81615871	0.41440937	0.60089358	0.22120243	no
IRF8	4519.44282	0.61888905	0.34025876	1.81887763	0.0689301	0.20822635	0.68146431	no
CDH5	2144.0873	0.60618286	0.37617423	1.61144178	0.10708347	0.27861496	0.55499557	no
XCR1	582.639676	0.5999356	0.50622852	1.18510826	0.23597465	0.41144595	0.38568721	no
CD3D	2876.52694	0.59369513	0.50158145	1.18364651	0.23655302	0.41144595	0.38568721	no
TRGC1	907.388359	0.5845915	0.53969721	1.08318422	0.27872666	0.45410523	0.34284349	no
CD86	2135.89046	0.58200204	0.42572694	1.36707823	0.17160079	0.35054231	0.45537107	no
SH2D6	207.044499	0.56380102	0.70582219	0.7987862	0.42441439	0.61233917	0.21300796	no
NEUROD1	791.465371	0.56028891	0.62252389	0.90002796	0.36810537	0.56184504	0.25038345	no
FXYD5	5369.07009	0.55419012	0.31682914	1.74917659	0.0802605	0.23750556	0.62432622	no
S100A9	3473.14706	0.53585536	0.96858096	0.55323756	0.58010075	0.75007895	0.12489302	no
NOTCH3	2021.86666	0.52916021	0.37108326	1.42598783	0.15387185	0.33300625	0.47754761	no
KLRF1	670.003887	0.52592936	0.41736479	1.26011913	0.20762639	0.40050485	0.39739222	no
CLDN5	889.083778	0.52139784	0.67144331	0.77653293	0.43743439	0.61880962	0.20844294	no
CSF3R	1189.80923	0.51914081	0.78815178	0.65868126	0.51010047	0.69125764	0.16036005	no
LEF1	3583.37577	0.48364171	0.34012302	1.42196113	0.15503754	0.3330436	0.47749891	no</

CACNA1A	960.236156	0.48163638	0.65663091	0.73349636	0.46325575	0.64279505	0.19192747	no
IGHE	97.0412267	0.47857994	1.06351777	0.44999713	0.65271251	0.80206198	0.09579207	no
TRGV9	716.779404	0.45828269	0.58639262	0.78152875	0.43449158	0.61765959	0.20925081	no
TNFSF13B	1863.35862	0.4570269	0.39421808	1.15932508	0.2463237	0.41774195	0.37909191	no
MRC1	3356.91078	0.45282759	0.50084353	0.90412987	0.36592654	0.56147459	0.25066989	no
ZFP36L1	12275.9423	0.43886158	0.59282452	0.74028917	0.45912455	0.64012557	0.19373482	no
CRYAB	2098.64151	0.43353543	0.41901327	1.034658	0.30082866	0.48199067	0.31696137	no
TRGC2	1582.5655	0.42894772	0.39474646	1.0866411	0.27719545	0.45410523	0.34284349	no
IL1R1	6092.98725	0.40521105	0.43358735	0.93455458	0.3500179	0.5428085	0.26535336	no
OSMR	2661.85795	0.39047101	0.3266134	1.19551433	0.23188614	0.41144595	0.38568721	no
CCSER1	2486.56767	0.37726307	0.42810619	0.88123713	0.37818948	0.5712237	0.24319378	no
VWF	2640.62439	0.36738076	0.4452452	0.82512008	0.40930342	0.59647232	0.2244097	no
FOXP3	506.931456	0.36732149	0.63264665	0.58061082	0.56150278	0.73622147	0.13299152	no
CCL23	584.543271	0.36214927	0.50250257	0.72069139	0.47109941	0.6474826	0.1887719	no
CYTH1	4619.9569	0.35658088	0.42331242	0.84235866	0.39958722	0.58525401	0.2326556	no
IL1RL1	1153.38695	0.34880068	0.38443592	0.90730512	0.36424547	0.56147459	0.25066989	no
VCAN	4267.30924	0.33719796	0.53011325	0.63608665	0.52471994	0.70776178	0.15011289	no
TGFBR2	7579.67825	0.33570305	0.44261746	0.75844965	0.44818185	0.63093561	0.20001496	no
ALOX5	3354.62151	0.33357323	0.4450963	0.74944058	0.4535917	0.63546663	0.19690725	no
TNFAIP3	7131.71415	0.32997486	0.37882781	0.87104181	0.38373132	0.5765911	0.23913206	no
CD8A	1127.59325	0.32053351	0.51971139	0.61675291	0.53739772	0.71818128	0.14376592	no
FCGR3B	2307.78612	0.29779736	0.66919248	0.44501002	0.65631251	0.8025054	0.09555204	no
NFKBIA	6678.05303	0.28819199	0.50063273	0.57565551	0.56484805	0.73622147	0.13299152	no
CD1D	1611.36803	0.26645507	0.26290255	1.01351267	0.31081535	0.49525522	0.30517094	no
TRDC	982.418259	0.2577235	0.46832779	0.5503058	0.58210965	0.75007895	0.12489302	no
CD79A	6817.54988	0.24730059	0.76989811	0.3212121	0.74804966	0.86428049	0.06334529	no
HPGDS	935.045685	0.24320181	0.45826619	0.53069989	0.59562676	0.7561008	0.1214203	no
KLRB1	1985.69773	0.24102815	0.45473205	0.53004435	0.59608118	0.7561008	0.1214203	no
TNFRSF1B	5545.37429	0.23719667	0.35329017	0.67139335	0.50196998	0.68343331	0.16530386	no
MCAM	3740.74407	0.2158931	0.41229661	0.5236354	0.60053215	0.7561008	0.1214203	no
CD4	3278.25061	0.21539046	0.37351612	0.57665641	0.56417159	0.73622147	0.13299152	no
COL1A2	24033.8077	0.21354201	0.60721746	0.35167303	0.72508349	0.84447474	0.07341333	no
GLIS3	1096.79648	0.20364274	0.48740297	0.41781186	0.67608468	0.8113261	0.09080455	no
BATF	409.524264	0.20095653	0.32287329	0.62240061	0.53367848	0.71651278	0.14477606	no
GATA2	2043.52493	0.1980654	0.48013069	0.41252393	0.67995544	0.81146946	0.09072782	no
MEF2C	3166.64943	0.19467715	0.3740221	0.52049639	0.60271764	0.7561008	0.1214203	no
C7	2206.58324	0.18843596	0.74359751	0.25341123	0.79995045	0.88760144	0.051782	no
S100B	1431.59288	0.18807367	0.35793906	0.5254349	0.5992809	0.7561008	0.1214203	no
COL1A1	27985.0535	0.18546701	0.61483639	0.30165263	0.76291689	0.86763097	0.06166495	no
FCER1G	6285.04915	0.17552422	0.5462375	0.32133316	0.74795793	0.86428049	0.06334529	no
SPARC	16800.0697	0.17186035	0.66376984	0.25891557	0.79570038	0.88760144	0.051782	no
IL10RA	5656.27472	0.16564736	0.4637217	0.35721287	0.72093245	0.84447474	0.07341333	no
LILRA4	1838.12172	0.15420247	0.33349447	0.46238389	0.64380605	0.79448406	0.09991481	no
GZMB	859.258529	0.15061619	0.59322533	0.25389373	0.79957766	0.88760144	0.051782	no
CTSL	5683.08235	0.13764451	0.44727845	0.30773786	0.75828181	0.86763097	0.06166495	no
COL6A2	9314.92282	0.13700599	0.66664261	0.20551639	0.83716869	0.90252387	0.0445413	no
LAMP3	3485.7638	0.13614552	0.30942409	0.43999651	0.65993963	0.8025054	0.09555204	no
COL3A1	35487.2811	0.13468081	0.62056665	0.21702876	0.82818593	0.90252387	0.0445413	no
TNFRSF11B	1906.35102	0.13279169	0.77956772	0.17034015	0.86474264	0.91523856	0.03846569	no
SPARCL1	10113.9213	0.12963438	0.56263457	0.23040601	0.8177763	0.90044036	0.04554505	no
APOE	2353.41664	0.12448485	0.54618643	0.22791641	0.81971122	0.90044036	0.04554505	no
OGN	1294.86949	0.1142031	0.69220798	0.1649838	0.868895674	0.91538724	0.03839515	no
FCGR3A	1237.2805	0.10894855	0.52753492	0.20652387	0.83638172	0.90252387	0.0445413	no
NKG7	583.099906	0.10144009	0.56068765	0.18092086	0.85642969	0.90976048	0.04107293	no
MAF	9653.17113	0.09874499	0.39358458	0.25088633	0.80190199	0.88760144	0.051782	no
CCL8	795.427419	0.09578607	0.59076391	0.16213934	0.87119613	0.91538724	0.03839515	no
HMGB2	7935.80976	0.09423443	0.45260241	0.20820577	0.8350683	0.90252387	0.0445413	no
TGFBR1	4446.99339	0.08257963	0.28164549	0.29320415	0.76936611	0.87154755	0.05970892	no
TYROBP	1596.51563	0.06204919	0.49520551	0.12529988	0.90028615	0.93243922	0.03037947	no
IRF7	100.856079	0.05514205	0.52970716	0.10409912	0.91709069	0.94310745	0.02543883	no
TCF4	2331.13703	0.04918573	0.44556827	0.11038877	0.91210106	0.94131426	0.02626536	no
CLEC10A	867.66406	0.04373027	0.48071185	0.09096982	0.92751657	0.95045868	0.02206676	no
ASP1	1211.93258	0.00630214	0.48591406	0.01296965	0.98965201	0.99706356	0.00127716	no
HMG2	32112.0311	-0.0016114	0.29878793	-0.0053931	0.99569694	0.99706356	0.00127716	no
KLRC2	1351.28228	-0.001848	0.50213533	-0.0036803	0.99706356	0.99706356	0.00127716	no
TYK2	5738.37775	-0.0037923	0.32210166	-0.0117737	0.99060615	0.99706356	0.00127716	no
LST1	515.700859	-0.0069104	0.40282372	-0.017155	0.98631298	0.99706356	0.00127716	no
TRPM5	803.841932	-0.0183568	0.70743955	-0.0259483	0.97929859	0.99647927	0.00153173	no
PLP1	686.667113	-0.026776	0.53483156	-0.0500643	0.96007117	0.98035436	0.00861691	no
RGCC	1611.68025	-0.0466933	0.34133816	-0.1367948	0.89119301	0.92889968	0.03203118	no
PDGFRA	6603.12943	-0.0586203	0.43855306	-0.1336674	0.89366556	0.92889968	0.03203118	no
TLE4	3245.07062	-0.0782954	0.29311465	-0.2671154	0.78938028	0.88760144	0.051782	no
TPSB2	1488.32088	-0.0801921	0.54909061	-0.1460453	0.88388559	0.92536759	0.03368572	no
NCAM1	1040.62283	-0.083402	0.43981902	-0.189628	0.84960061	0.9061102	0.04281898	no
JAK2	5120.8998	-0.0853257	0.32079826	-0.2659794	0.79025505	0.88760144	0.051782	no
GZMA	1227.09625	-0.0934198	0.49353847	-0.1892857	0.84986888	0.9061102	0.04281898	no
HLA-DRA	16413.3057	-0.1051219	0.54481295	-0.1929505	0.84699772	0.9061102	0.04281898	no
PECAM1	9946.17504	-0.1106539	0.49996844	-0.2213219	0.82484183	0.90252387	0.0445413	no
TOP2A	3752.54684	-0.1131834	0.37517189	-0.3016841	0.7628929	0.86763097	0.06166495	no
IFITM2	2616.48229	-0.1324943	0.37363635	-0.3546076	0.72288358	0.84447474	0.07341333	no
S100A4	1685.74879	-0.1386095	0.36706203	-0.3776186	0.70571394	0.83533487	0.07813939	no
MSA47	5283.47913	-0.1636338	0.34295521	-0.4771287	0.63327051	0.78482242	0.1052286	no
TUBB	8071.50028	-0.1658269	0.28901687	-0.5737619	0.56612893	0.73622147	0.13299152	no
CPA3	3586.24516	-0.177941	0.35609713	-0.499698	0.61728773	0.76829803	0.11447028	no
JAK1	11059.4691	-0.1796985	0.43143981	-0.4165089	0.67703764	0.8113261	0.09080455	no
CCL5	3433.52566	-0.1812969	0.50719924	-0.3574471	0.72075711	0.84447474	0.07341333	no
CD14	5297.90012	-0.1987213	0.45767114	-0.4342011	0.6641424	0.8025054	0.09555204	no
MSA42	1147.41002	-0.2076834	0.40140225	-0.5173947	0.60488064	0.7561008	0.1214203	no
IL13RA2	854.347269	-0.2370598	0.76736994	-0.308925	0.75737855	0.86763097	0.06166495	no
PLVAP	5503.58908	-0.2435467	0.44543707	-0.546759	0.58454429	0.75007895	0.12489302	no
CD44	22491.6211	-0.255122	0.43907643	-0.5810424	0.56121191	0.73622147	0.13299152	no
PHLDA2	358.524149	-0.2586657	0.59073371	-0.4378719	0.66147912	0.8025054	0.09555204	no
TGFBI	20332.6947	-0.266264	0.67572625	-0.3940412	0.69355064	0.82430199	0.08391365	no
QDPR	2915.60647	-0.2706092	0.31640799	-0.855254	0.39241056	0.58406564	0.23353834	no
TPH1	2162.42886	-0.3166271	0.53314998	-0.5938799	0.55259241	0.7351	0.13365358	no
CPE	2511.08592	-0.3550456	0.41644344	-0.8525661	0.39389996	0.58406564	0.23353834	no
NPC2	5980.98134	-0.4386594	0.28939611	-1.5157749	0.12957628	0.29823112	0.52544703	no
CAV1	3118.44421	-0.443147	0.46202055	-0.9591501	0.33748315	0.52902765	0.27652163	no
UBE2C	1475.25515	-0.4443065	0.35905932	-1.2374181	0.21593189	0.40050485	0.39739222	no

INSM1	994.016817	-0.4670687	0.55342088	-0.8439665	0.39868813	0.58525401	0.2326556	no
KIT	2108.29862	-0.4674724	0.38820587	-1.2041869	0.22851733	0.41144595	0.38568721	no
RORC	2441.77639	-0.4745409	0.4373544	-1.0850261	0.2779101	0.45410523	0.34284349	no
SOX6	1718.78727	-0.475219	0.38243505	-1.2426137	0.21401024	0.40050485	0.39739222	no
WNT5A	3349.41961	-0.4762339	0.60852428	-0.7826045	0.43385938	0.61765959	0.20925081	no
PROX1	1646.78975	-0.4777906	0.4259989	-1.1215772	0.26204226	0.43926159	0.35727677	no
POSTN	6799.184	-0.4916098	0.57765857	-0.8510388	0.39474781	0.58406564	0.23353834	no
CD209	3280.26477	-0.4918763	0.35589109	-1.3820978	0.16694168	0.3482956	0.45805201	no
RG55	5353.96751	-0.4959407	0.49747498	-0.9969158	0.31880538	0.50246501	0.29889418	no
TNMIN1	7112.84912	-0.5074335	0.44907573	-1.1299508	0.25849698	0.43583793	0.36067498	no
FABP5	12212.1062	-0.5161133	0.40971007	-1.2597038	0.20777625	0.40050485	0.39739222	no
MKI67	7800.26954	-0.5165899	0.41812996	-1.2354769	0.21665308	0.40050485	0.39739222	no
TPSAB1	676.972831	-0.5360763	0.74382342	-0.7207037	0.47109183	0.6474826	0.1887719	no
ACTG1	105448.403	-0.5449691	0.41089417	-1.3263003	0.18474025	0.37464806	0.42637651	no
CALD1	12046.6369	-0.5498026	0.58381599	-0.9417395	0.34632603	0.53997068	0.26762982	no
BEST4	551.312459	-0.5546551	0.80119155	-0.6922877	0.48875666	0.66858222	0.17484518	no
HLA-DRB1	9531.98169	-0.592694	0.66348814	-0.8933	0.37169654	0.564356	0.24844685	no
AZM	18885.8881	-0.618585	0.61342017	-1.0084197	0.313253	0.49641187	0.30415785	no
APP	28138.247	-0.6676403	0.53447921	-1.2491418	0.21161323	0.40050485	0.39739222	no
IGHA2	769.55433	-0.6717744	0.54433867	-1.2341112	0.21716148	0.40050485	0.39739222	no
CD59	17776.8393	-0.6730311	0.53961026	-1.247254	0.21230437	0.40050485	0.39739222	no
CCL20	1862.03197	-0.7007523	0.51243115	-1.3675052	0.17146701	0.35045231	0.45537107	no
TNFRSF1A	6989.81671	-0.7081066	0.45589296	-1.55323	0.12036819	0.28848575	0.53987564	no
DUSP23	915.194974	-0.7205409	0.38787857	-1.8576455	0.06321937	0.19713568	0.70523476	no
TM4SF1	4506.98939	-0.7409377	0.63388519	-1.1688831	0.24245074	0.41359244	0.38342741	no
S100A11	10790.127	-0.7597886	0.50691505	-1.4988481	0.13391305	0.3018422	0.52022005	no
TUBA1B	57892.8789	-0.7720671	0.4602516	-1.6774892	0.09344686	0.26568225	0.57563746	no
FCER1A	1467.9427	-0.7747403	0.59905614	-1.2932682	0.19591831	0.38915281	0.40987983	no
MZB1	15536.3626	-0.7918994	0.64361794	-1.2303874	0.21855209	0.40050485	0.39739222	no
F3	7352.51271	-0.798783	0.67128762	-1.1899265	0.23407527	0.41144595	0.38568721	no
C1QA	3218.33667	-0.8074313	0.5083546	-1.5883231	0.1122133	0.27907762	0.554275	no
SEC61B	2324.72837	-0.8806766	0.56268317	-1.5651376	0.11755066	0.28636484	0.54308031	no
PLAC8	26890.5595	-0.8917227	0.61373416	-1.4529461	0.14623872	0.32128204	0.49311355	no
ASCL2	1023.18462	-0.8928285	0.63706736	-1.4014664	0.16107465	0.3384902	0.4704539	no
IL32	5750.57097	-0.9293315	0.46063413	-2.0175047	0.04364287	0.15657365	0.80528132	no
NUPR1	5388.12845	-0.9567296	0.40986472	-2.3342571	0.01958226	0.09962906	1.00161399	yes
GSN	26004.6796	-0.9808445	0.49027272	-2.0006099	0.04543444	0.15874684	0.7992949	no
TMEM176A	12356.3759	-0.9871753	0.40027204	-2.4662609	0.01365318	0.07918847	1.10133805	yes
LTBR	4714.62655	-1.0182869	0.4645796	-2.191846	0.02839063	0.12520291	0.90236374	no
ANXA2	51690.1993	-1.0272292	0.5093755	-2.0166444	0.04373264	0.15657365	0.80528132	no
JUN	13975.4846	-1.0465046	0.54545081	-1.9186049	0.05503435	0.18025499	0.7441127	no
C1QB	2214.65925	-1.047101	0.58023684	-1.8046097	0.07113579	0.212674	0.6722856	no
TINAGL1	3562.7049	-1.0591709	0.5142761	-2.0595374	0.03944278	0.1525121	0.8166957	no
CST3	10473.5316	-1.0633765	0.36108145	-2.9449768	0.00322979	0.03624763	1.44072037	yes
MGLL	6414.94017	-1.0875673	0.50196453	-2.1666218	0.0302637	0.12810694	0.89242734	no
LYZ	27013.2345	-1.0986711	0.54005673	-2.0343623	0.04191508	0.15657365	0.80528132	no
LGR5	1818.8912	-1.1389743	0.76046295	-1.497738	0.13420133	0.3018422	0.52022005	no
TMEM176B	19200.2275	-1.1672661	0.4409675	-2.647057	0.00811957	0.06257329	1.203611	yes
SSR4	10887.252	-1.2241086	0.61043132	-2.0053175	0.04492911	0.15874684	0.7992949	no
C1QC	4069.13535	-1.2400276	0.55975488	-2.2153046	0.02673916	0.12457024	0.90458571	no
SELENOP	34314.8266	-1.2435086	0.51776171	-2.4017006	0.01631906	0.09101013	1.04091027	yes
INAVA	4294.78486	-1.2559343	0.59033848	-2.1274817	0.03338008	0.13773601	0.86095251	no
REG4	15966.2714	-1.3432509	0.97524079	-1.3773531	0.1684031	0.348835	0.45737994	no
TNFRSF17	2792.8458	-1.3586279	0.61541533	-2.2076601	0.02726798	0.12457024	0.90458571	no
MSA48	1287.98924	-1.3637374	0.63025459	-2.1637881	0.03048062	0.12810694	0.89242734	no
TNFRSF11A	7263.14539	-1.4018091	0.60910519	-2.3014236	0.0213677	0.10502768	0.97869622	no
OLFM4	25435.528	-1.4177527	0.88830737	-1.5960159	0.11048524	0.27861496	0.55499557	no
NO52	4415.26132	-1.4378824	0.6009771	-2.3925744	0.01673064	0.091545	1.03836537	yes
CA7	1298.27157	-1.4865783	0.75985711	-1.9563918	0.05041901	0.17201781	0.7644266	no
SOX9	4574.56688	-1.5105352	0.66764838	-2.2624711	0.02366831	0.11252149	0.94876452	no
MYH11	20743.4326	-1.5204588	0.75223562	-2.0212534	0.04325355	0.15657365	0.80528132	no
OTOP2	738.768648	-1.528389	0.92993831	-1.6435381	0.10027165	0.27510757	0.56049745	no
CXCL14	8732.76611	-1.5309708	0.66100733	-2.3161177	0.02055184	0.10275922	0.98817918	no
CEACAM1	21259.322	-1.6170256	0.70494001	-2.2938485	0.0217992	0.10536281	0.97731265	no
CEACAM6	23845.8847	-1.6680934	0.70067926	-2.3806804	0.0172807	0.09280374	1.03243453	yes
MUC1	8206.29814	-1.7108829	0.52490528	-3.2594127	0.00111643	0.02363953	1.62636116	yes
KRT8	97907.0904	-1.7241713	0.58818072	-2.9313632	0.00337478	0.03624763	1.44072037	yes
S100A16	8527.96765	-1.7641203	0.63524246	-2.7770818	0.00548494	0.0513107	1.28979208	yes
ITM2C	59915.0621	-1.8161916	0.56167577	-3.2335231	0.00122273	0.02363953	1.62636116	yes
S100P	5597.95965	-1.8902844	0.86298947	-2.1903911	0.02849589	0.12520291	0.90236374	no
DDC	5190.05703	-1.894338	0.6678015	-2.8366783	0.00455855	0.04558552	1.34117306	yes
ADAMDEC1	10264.2272	-1.9346004	0.57903053	-3.3411025	0.00083446	0.02363953	1.62636116	yes
FABP2	5896.1976	-2.0219118	0.80813417	-2.5019507	0.01235111	0.076209	1.11799376	yes
TFF3	10832.0483	-2.022793	0.70427139	-2.8721783	0.00407653	0.0422212	1.37446948	yes
PIGR	117128.085	-2.0292558	0.75601726	-2.6841395	0.00727168	0.05857739	1.23226999	yes
AGR2	47284.3389	-2.0361977	0.81159554	-2.5088823	0.01211138	0.076209	1.11799376	yes
EPCAM	57971.1687	-2.1039525	0.70352997	-2.9905655	0.00278461	0.03562572	1.4482364	yes
SPINK1	10616.1579	-2.1851581	0.61445418	-3.5562588	0.00037617	0.01709684	1.76708418	yes
LEFTY1	3988.95609	-2.2570835	0.86228618	-2.6175574	0.00885616	0.06264113	1.20314041	yes
C15orf48	26739.1836	-2.4489055	0.67213804	-3.6434563	0.000269	0.01709684	1.76708418	yes
MUC2	12916.4213	-2.4902386	0.92305577	-2.6978203	0.00697951	0.05783023	1.23784507	yes
WFDCC2	1460.19394	-2.4986149	0.85141237	-2.9346706	0.00333902	0.03624763	1.44072037	yes
SPINK4	10731.9425	-2.6137551	1.01448594	-2.5764331	0.00998255	0.06892715	1.16160966	yes
LYPD8	8786.16714	-2.6434257	0.86153923	-3.0682593	0.0021531	0.03286306	1.48329199	yes
SLC26A2	20711.8808	-2.6730985	0.82422152	-3.2431797	0.00118204	0.02363953	1.62636116	yes
GPR15	3900.81575	-2.6848083	0.75945183	-3.5351923	0.00040748	0.01709684	1.76708418	yes
ITLN1	13676.6227	-2.8477454	0.90704111	-3.139599	0.00169179	0.02725666	1.56452743	yes
LGALS4	94777.0134	-2.9341603	0.83920226	-3.4963685	0.00047164	0.01709684	1.76708418	yes
PHGR1	74019.8639	-3.0317675	0.81278179	-3.7301125	0.00019139	0.01709684	1.76708418	yes
GUCY2A	1260.16858	-3.1077626	0.93260398	-3.3323498	0.00086116	0.02363953	1.62636116	yes
FABP1	63313.6438	-3.3477142	0.90835847	-3.6854549	0.00022829	0.01709684	1.76708418	yes
CA4	10499.4036	-3.5330824	0.93494966	-3.7789012	0.00015752	0.01709684	1.76708418	yes
AQP8	10362.8134	-3.6448886	1.15982052	-3.1426316	0.00167436	0.02725666	1.56452743	yes

Supplementary Table 6. Pseudobulk DE gene analysis of Xenium data comparing colon biopsies in UC PRE Non-Responders versus UC PRE Responders. Significance was set as log2fc >0.4 or <-0.4, p-adj < 0.1 and baseMean >500.

Gene Signature	Gene list	Numeric ID	
Xenium_HC	<i>AQP8</i>	7994252	
	<i>GUCA2A</i>	7915404	
	<i>SLC26A2</i>	8109194	
	<i>BEST4</i>	7915598	
	<i>OTOP2</i>	8009705	
	<i>DDC</i>	8139640	
	<i>MT1G</i>	8001531	
	<i>CA7</i>	7996331	
	<i>TRPM5</i>	7945742	
	<i>FABP1</i>	8053654	
	<i>JUN</i>	7916609	
	<i>FABP2</i>	8102523	
	<i>CLDN5</i>	8074473	
	<i>LGALS4</i>	8036591	
	<i>PIGR</i>	7923929	
	<i>TREM2</i>	8126279	
	<i>DUSP1</i>	8115831	
	<i>C15ORF48</i>	7983478	
	<i>MS4A8</i>	7940323	
	<i>EPCAM</i>	8041853	
	<i>IL32</i>	7992828	
	<i>C7</i>	8105084	
	<i>KRT8</i>	7963567	
	<i>PHLDA2</i>	7945781	
	<i>NTRK2</i>	8156134	
	<i>CACNA1A</i>	8034643	
	<i>PLP1</i>	8169061	
	<i>GATA2</i>	8090469	
	<i>TRGV9</i>	8139107	
	<i>CEACAM1</i>	8037205	
	<i>HPGDS</i>	8101780	
	<i>CD8B</i>	8044154	
	<i>RORC</i>	7920082	
	<i>NCAM1</i>	7943892	
	<i>CCL23</i>	8014361	
	<i>MGLL</i>	8090433	
	<i>CLEC9A</i>	7953924	
	<i>IL10</i>	7923907	
	<i>FCER1A</i>	7906443	
	<i>TINAGL1</i>	7899627	
	<i>TPH1</i>	7946946	
	<i>INAVA</i>	7908639	
	<i>CCL8</i>	8006453	
	<i>CSPG4</i>	7990545	
	<i>TNFSF9</i>	8025053	
	<i>ADGRB3</i>	8120468	
	<i>FABP5</i>	7948420	
	<i>GLIS3</i>	8159900	
	<i>CCSER1</i>	8096425	
	<i>TRGC1</i>	8180366	
	<i>SOX6</i>	7946757	
	<i>KLRC2</i>	7961182	
	<i>NUPR1</i>	8000574	
	<i>LILRA4</i>	8039246	
	<i>CST3</i>	8065403	
	<i>TRGC2</i>	8180366	
	<i>MS4A2</i>	7940226	
	<i>IL1RL1</i>	8044021	
	<i>HMG2</i>	7899187	
	<i>S100B</i>	8071036	
	Xenium_UC_PRE	<i>S100A12</i>	7920238
		<i>LTB</i>	8124950
		<i>SELL</i>	7896687
		<i>PTGDS</i>	8159521
		<i>JAK3</i>	8035351
		<i>MZB1</i>	8114511
		<i>BANK1</i>	8096617
		<i>CD19</i>	7994487
		<i>C3</i>	8033257
<i>CD79A</i>		8029136	
<i>TIMP1</i>		8167185	
<i>S100A9</i>		7905571	
<i>MS4A1</i>		7940287	
<i>S100A8</i>		7920244	
<i>NOS2</i>		8013536	
<i>PTPRC</i>		7908553	
<i>SSR4</i>		8170775	
<i>CLU</i>		8149927	
<i>PECAM1</i>		8017599	
<i>COL1A1</i>		8016646	
<i>BASP1</i>		8104601	
<i>IL7R</i>		8104901	
<i>MRC1</i>		7926410	

	<i>ALOX5</i>	7927215
	<i>TCF4</i>	8023415
	<i>SERPINF1</i>	8003667
	<i>CD1D</i>	7906330
	<i>VWF</i>	7960464
	<i>CD44</i>	7939341
	<i>OSMR</i>	8105040
	<i>MEF2C</i>	7896727
	<i>REG1A</i>	8042986
	<i>OLFM4</i>	7969288
	<i>KRT20</i>	8015124
	<i>LCN2</i>	8158167
	<i>S100A6</i>	7920258
	<i>MALAT1</i>	7941272
	<i>AGR2</i>	8138381
	<i>B2M</i>	7983360
	<i>CEACAM6</i>	8029098
	<i>S100A10</i>	7920123
	<i>ANXA2</i>	7989335
	<i>COL3A1</i>	8046922
	<i>TIMP1</i>	8167185
	<i>PLAC8</i>	8101429
	<i>COL1A1</i>	8016646
	<i>XBP1</i>	8075182
	<i>LGALS3</i>	7974461
	<i>DMBT1</i>	7931108
	<i>SOD2</i>	8130556
	<i>MZB1</i>	8114511
	<i>CD63</i>	7963911
	<i>SH3BGRL3</i>	7899153
	<i>PFN1</i>	8011759
	<i>SELENOP</i>	8111915
	<i>EZR</i>	8130505
CosMx_UC_PRE	<i>MYL12A</i>	8019924
	<i>HSP90B1</i>	7958130
	<i>ENO1</i>	7912198
	<i>CSTB</i>	8070701
	<i>LYZ</i>	7957023
	<i>SOD1</i>	8068168
	<i>SERPINA1</i>	7981068
	<i>TPT1</i>	7971373
	<i>FAU</i>	7893603
	<i>IGFBP7</i>	8100541
	<i>ANXA4</i>	8042468
	<i>VIM</i>	7926368
	<i>COL1A2</i>	8134263
	<i>ARF1</i>	7892830
	<i>PSAP</i>	7934196
	<i>PGK1</i>	8168500
	<i>CALM3</i>	8029831
	<i>GSTP1</i>	7941936
	<i>CALM1</i>	8052010
	<i>CTNNB1</i>	8079021
	<i>COL6A3</i>	8059905
	<i>ITM2B</i>	7969003
	<i>SRGN</i>	7927964
	<i>RACK1</i>	8116520
	<i>ATP5F1E</i>	8067288
	<i>RBM47</i>	8099967
	<i>IRF4</i>	8116559
	<i>AQP8</i>	7994252
	<i>CA4</i>	8008900
	<i>FABP1</i>	8053654
	<i>GUCA2A</i>	7915404
	<i>LGALS4</i>	8036591
	<i>ITLN1</i>	7921690
	<i>GPR15</i>	8081214
	<i>SLC26A2</i>	8109194
	<i>SPINK4</i>	8154779
	<i>WFDC2</i>	8063000
	<i>MUC2</i>	7937560
	<i>C15orf48</i>	7983478
	<i>LEFTY1</i>	7924663
	<i>SPINK1</i>	8114964
	<i>EPCAM</i>	8041853
Xenium UC PRE R	<i>AGR2</i>	8138381
	<i>PIGR</i>	7923929
	<i>TFF3</i>	8070567
	<i>FABP2</i>	8102523
	<i>ADAMDEC1</i>	8145317
	<i>DDC</i>	8139640
	<i>ITM2C</i>	8048995
	<i>S100A16</i>	7920291
	<i>KRT8</i>	7963567

	<i>MUC1</i>	7920642
	<i>CEACAM6</i>	8029098
	<i>NOS2</i>	8013536
	<i>SELENOP</i>	8111915
	<i>TMEM176B</i>	8143790
	<i>CST3</i>	8065403
	<i>TMEM176A</i>	8137264
	<i>NUPR1</i>	8000574
	<i>CD1C</i>	7906348
	<i>ZBTB16</i>	7943984
	<i>SELL</i>	7896687
	<i>FCER2</i>	8033420
	<i>CXCR5</i>	7944335
	<i>CCR7</i>	8015031
	<i>CD19</i>	7994487
	<i>BANK1</i>	8096617
	<i>MS4A1</i>	7940287
	<i>MMP3</i>	7951284
Xenium UC PRE NR	<i>MMP1</i>	7951271
	<i>CCR6</i>	8123364
	<i>CD69</i>	7896693
	<i>S1PR1</i>	7903393
	<i>ALOX5AP</i>	7968344
	<i>ICOS</i>	8047702
	<i>IL3RA</i>	8165752
	<i>CD7</i>	8019478
	<i>ITGAX</i>	7995128
	<i>ABCC9</i>	7961710
	<i>KLF2</i>	8026564
	<i>IL18R1</i>	8044035
	<i>CD19</i>	7994487
	<i>MS4A1</i>	7940287
	<i>BANK1</i>	8096617
	<i>SELL</i>	7896687
	<i>CD79A</i>	8029136
	<i>CCR7</i>	8015031
	<i>LTB</i>	8124950
	<i>C3</i>	8033257
	<i>TNFSF13B</i>	7969986
	<i>IRF8</i>	7997712
	<i>PTGDS</i>	8159521
	<i>CD1C</i>	7906348
Xenium GALT B DC S4_fibroblast	<i>HLA-DRA</i>	8118548
	<i>CD86</i>	7896700
	<i>ITGAX</i>	7995128
	<i>FCER1A</i>	7906443
	<i>CLEC10A</i>	8012013
	<i>CD1D</i>	7906330
	<i>CLEC9A</i>	7953924
	<i>XCR1</i>	8086595
	<i>FLT3</i>	7970737
	<i>HLA-DRB1</i>	8125445
	<i>CD40</i>	8063156
	<i>CD209</i>	8033445
	<i>LAMP3</i>	7893231
	<i>IL1R1</i>	8043995
	<i>TIMP1</i>	8167185
	<i>CD44</i>	7939341
	<i>IL13RA2</i>	8174598
	<i>MMP1</i>	7951271
	<i>MMP3</i>	7951284
	<i>OSMR</i>	8105040
	<i>NFKBIA</i>	7978644
	<i>TNFAIP3</i>	8122265
	<i>TNFRSF11B</i>	8152512
	<i>S100A8</i>	7920244
Xenium IAF-Monocyte-Neutrophil	<i>S100A9</i>	7905571
	<i>FCGR3B</i>	7921873
	<i>CSF3R</i>	7914950
	<i>BASP1</i>	8104601
	<i>OSM</i>	8075316
	<i>VCAN</i>	8106743
	<i>LYZ</i>	7957023
	<i>FCN1</i>	8165011
	<i>CST3</i>	8065403
	<i>CD14</i>	8114612
	<i>HLA-DRA</i>	8118548
	<i>HLA-DRB1</i>	8125445
	<i>TREM1</i>	8126303

Supplementary Table 7. iSCST gene signatures used for Gene Set Enrichment Analysis (GSEA). Numeric ID, Affymetrix numeric probe identifier corresponding to each gene.