
Catalogue

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Supplementary Table 1. General statistics of the eight enrolled patients

Groups	Genders	Diagnosis	Lactation history	The inflammatory lumps' size (cm)
GM_1	female	Granulomatous mastitis	3 years ago	4
GM_2	female	Granulomatous mastitis	5 years ago	10
GM_3	female	Granulomatous mastitis	5 years ago	7
GM_4	female	Granulomatous mastitis	6 years ago	5
CON_1	female	Fibroadenoma	3 years ago	-
CON_2	female	Fibroadenoma	None	-
CON_3	female	Fibroadenoma	None	-
CON_4	female	Fibroadenoma	4 years ago	-

Notes: “-” means no inflammatory lump.

Supplementary Table 2a. Marker genes for 11 major cell types

Celltypes	Markers	References
Epithelial Cells	EPCAM,KRT19,KRT18	[1,2]
Endothelial cells	PECAM1,VWF,CDH5	[3-5]
Fibroblasts	DCN,COL1A1,COL1A2	[3,6]
Mural Cells	ACTA2,RGS5,IGFBP7	[7,8]
B Cells	MS4A1,CD79A,CD19	[9,10]
Plasma Cells	JCHAIN,MZB1,CD79A	[9,11]
T and NK cells	CD3D,CD3E,CD3G	[9,12]
Neutrophils	FCGR3B,S100A9,S100A8	[12]
Mast Cells	TPSAB1,CPA3,TPSB2	[4,12]
Mononuclear phagocytes	CD14,LYZ,CD68	[13,14]
Plasmacytoid dendritic cells	CLEC4C,IL3RA,LILRA4	[4,15]

Supplementary Table 2b. Marker genes for T and NK cells

Celltypes	Markers	References
Proliferating T cells	MKI67,TOP2A,STMN1	[4,11,16]
Natural killer cells	NKG7,GNLY,NCAM1	[9,17,18]
NK T cells	NKG7,GNLY,FCGR3A	[19,20]
CD4+ naive T cells	CCR7,SELL,CD4	[21-23]
CD4+ Follicular helper T cells	CXCR5,PDCD1,CD200	[11,21,24]

CD4+ T-helper 1 cells	IFNG,TNF,CXCR3	[25-27]
CD4+ regulatory T cells	FOXP3,IL2RA,CTLA4	[28]
CD8+ mucosal-associated invariant T cells	KLRB1,SLC4A10,NCR3	[29-31]
CD8+ naive T cells	CCR7,LEF1,SELL	[25]
CD8+ effector T cells	GZMA,CD8A,NKG7	[18,32]
CD8+ tissue-resident memory T cells	ZNF683,ITGA1,CD8A	[33,34]

Supplementary Table 2c. Marker genes for epithelial cells

Celltypes	Markers	Celltypes
Arterial endothelial cells	GJA5,SEMA3G,HEY1	[3,32,35]
Capillary endothelial cells	CA4,RGCC,KDR	[36-38]
Venous endothelial cells	ACKR1,SELE,VWF	[3,39]

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Supplementary Table 3. Number of cells of the 11 major cell types in the two groups

Clusters	Cell numbers (Con)	Cell numbers (GM)
Epithelial Cells	28753	2174
Endothelial cells	3504	695
Fibroblasts	2004	1515
Mural Cells	2006	194
B Cells	209	4190
Plasma Cells	111	2576
T and natural killer cells	7157	14591
Neutrophils	45	3425
Mast Cells	80	609
Mononuclear phagocytes	1697	3729
Plasmacytoid dendritic cells	4	743

Supplementary Table 4. T and NK cell subtypes and numbers in different groups

Clusters	Cell numbers (Con)	Cell numbers (GM)
ProliferatingT_MKI67	85	651
NK_XCL1	124	703
NKT_FCGR3A	189	293
CD4NaiveT_CCR7	137	838
CD4Tfh_CXCL13	18	358
CD4Th1_IFNG	33	1461
CD4Treg_FOXP3	216	1062
CD8MAIT_SLC4A10	143	192
CD8NaiveT_CCR7	55	326
CD8Teff_GZMK	708	888
CD8Trm_CCL4	1029	1462
CD8Trm_ZNF683	1909	550

Supplementary Table 5. Number of mononuclear phagocyte cells in the two groups after the first clustering

Clusters	Cell numbers (Con)	Cell numbers (GM)
Macrophages	979	2074
Monocytes	16	334
MatureDCs	7	133
cDC1	2	64
cDC2	198	325
Osteoclasts	105	232

Supplementary Table 6. Number of cells of each macrophage subpopulation between the two groups

Cell types	Cell numbers (Con)	Cell numbers (GM)	<i>P</i>	<i>P</i> .adj	<i>P</i> .signif	Method
Macrophages_LRMDA	106	195	0.68709 4508	0.69	ns	T-test
Macrophages_CX3CR1	772	123	1.23×10^{-5}	4.90×10^{-5}	****	T-test
Macrophages_CXCL10	28	720	0.00350 7331	0.011	**	T-test
Macrophages_CCL18	30	725	0.00778 4191	0.016	**	T-test

Note: *P*.adj, Adjusted *p* value; *P*.signif, significance level; ns, No statistical difference.

**Supplementary Table 7: Number of cells of different subpopulations of
endothelial cells between the two groups**

Cell types	Cell numbers (Con)	Cell numbers (GM)
Arterial endothelial cells (AECs)	364	43
Capillary endothelial cells (CapECs)	835	63
Venous endothelial cells (VECs)	1263	278
Endothelial Cells (ECs)	2462	384