

Supplementary Table 9 Gene ontology enrichment analysis in cluster 1 and cluster 2.

Supplementary Table 9b Gene ontology enrichment in cluster 2.

GO Term	originalGeneSetSize	actualGeneSetSize	logitNES	p-value	q-value
IMMUNE RESPONSE	1100	809	-0.7559	1.73E-34	8.13E-31
DEFENSE RESPONSE	1231	903	-0.5897	3.54E-24	3.34E-21
INNATE IMMUNE RESPONSE	619	438	-0.7106	7.49E-18	1.86E-15
HALLMARK INTERFERON GAMMA RESPONSE	200	194	-1.0328	1.99E-16	3.91E-14
CYTOKINE MEDIATED SIGNALING PATHWAY	452	372	-0.6784	5.23E-14	7.04E-12
RESPONSE TO BIOTIC STIMULUS	886	652	-0.5072	6.14E-14	8.03E-12
ADAPTIVE IMMUNE RESPONSE	288	196	-0.9232	9.60E-14	1.22E-11
INFLAMMATORY RESPONSE	454	352	-0.6708	2.47E-13	2.98E-11
RESPONSE TO CYTOKINE	714	607	-0.5120	3.84E-13	4.11E-11
LEUKOCYTE CELL CELL ADHESION	255	213	-0.8483	7.83E-13	7.84E-11
HALLMARK TNFA SIGNALING VIA NFKB	200	195	-0.8840	9.97E-13	9.21E-11
HALLMARK ALLOGRAFT REJECTION	200	179	-0.9138	1.76E-12	1.56E-10
CELL CELL ADHESION	608	516	-0.5169	8.15E-12	6.73E-10
SINGLE ORGANISM CELL ADHESION	459	391	-0.5876	1.24E-11	1.00E-09
DEFENSE RESPONSE TO OTHER ORGANISM	505	327	-0.6417	1.33E-11	1.06E-09
CELLULAR RESPONSE TO CYTOKINE STIMULUS	606	509	-0.5196	1.39E-11	1.09E-09
CYTOKINE RECEPTOR ACTIVITY	89	70	-1.4558	1.71E-11	1.32E-09
LYMPHOCYTE ACTIVATION	342	290	-0.6722	2.51E-11	1.91E-09
LEUKOCYTE ACTIVATION	414	348	-0.6092	3.33E-11	2.44E-09
ENDOPLASMIC RETICULUM LUMEN	201	176	-0.8633	3.37E-11	2.44E-09
DEFENSE RESPONSE TO VIRUS	164	132	-0.9956	5.00E-11	3.23E-09
REGULATION OF IMMUNE RESPONSE	858	680	-0.4321	6.22E-11	3.90E-09
VACUOLAR LUMEN	115	100	-1.1709	8.01E-11	4.90E-09
REGULATION OF CYTOKINE PRODUCTION	563	474	-0.5024	1.76E-10	1.02E-08
HALLMARK INTERFERON ALPHA RESPONSE	97	94	-1.1567	1.91E-10	1.10E-08
CELL ACTIVATION	568	475	-0.4985	2.32E-10	1.30E-08
POSITIVE REGULATION OF CYTOKINE PRODUCTION	370	311	-0.6080	3.75E-10	1.98E-08
RESPONSE TO VIRUS	247	207	-0.7431	4.75E-10	2.46E-08
LYSOSOMAL LUMEN	88	82	-1.2352	7.36E-10	3.57E-08
CELL SURFACE	757	600	-0.4149	6.85E-09	3.01E-07
EXTERNAL SIDE OF PLASMA MEMBRANE	238	173	-0.7626	1.00E-08	4.20E-07
HALLMARK INFLAMMATORY RESPONSE	200	188	-0.7147	1.06E-08	4.36E-07
REGULATION OF INFLAMMATORY RESPONSE	294	237	-0.6286	1.49E-08	5.88E-07
REGULATION OF RESPONSE TO WOUNDING	413	331	-0.5264	2.02E-08	7.71E-07
EXTRACELLULAR STRUCTURE ORGANIZATION	304	265	-0.5854	2.37E-08	8.93E-07
RESPONSE TO BACTERIUM	528	363	-0.4939	3.54E-08	1.30E-06
REGULATION OF CELL ACTIVATION	484	394	-0.4720	4.09E-08	1.48E-06
LYMPHOCYTE DIFFERENTIATION	209	172	-0.7104	5.26E-08	1.82E-06
IMMUNE EFFECTOR PROCESS	486	380	-0.4692	8.37E-08	2.78E-06
RESPONSE TO TYPE I INTERFERON	68	53	-1.2686	2.00E-07	6.06E-06
POSITIVE REGULATION OF IMMUNE RESPONSE	563	454	-0.4068	3.88E-07	1.12E-05
CARBOHYDRATE BINDING	277	208	-0.6117	4.05E-07	1.16E-05
RESPONSE TO MOLECULE OF BACTERIAL ORIGIN	321	274	-0.5183	4.71E-07	1.35E-05
SULFURIC ESTER HYDROLASE ACTIVITY	17	16	-2.6134	6.41E-07	1.72E-05
LEUKOCYTE DIFFERENTIATION	292	248	-0.5352	7.41E-07	1.94E-05
HALLMARK EPITHELIAL MESENCHYMAL TRANSITION	200	197	-0.5884	1.24E-06	3.10E-05
HALLMARK IL6 JAK STAT3 SIGNALING	87	81	-0.9291	1.33E-06	3.26E-05
POSITIVE REGULATION OF CELL ADHESION	376	319	-0.4596	1.42E-06	3.45E-05
AMINOGLYCAN METABOLIC PROCESS	166	149	-0.6705	1.63E-06	3.88E-05
RESPONSE TO INTERFERON GAMMA	144	120	-0.7490	1.66E-06	3.92E-05
CYTOKINE RECEPTOR BINDING	271	192	-0.5880	1.71E-06	4.03E-05
REGULATION OF IMMUNE EFFECTOR PROCESS	424	348	-0.4338	2.02E-06	4.73E-05
HALLMARK P53 PATHWAY	200	190	-0.5849	2.19E-06	4.95E-05
POSITIVE REGULATION OF RESPONSE TO EXTERNAL STIMULUS	296	249	-0.5099	2.25E-06	5.07E-05
REGULATION OF INTERLEUKIN 8 PRODUCTION	61	46	-1.2335	2.29E-06	5.13E-05
POSITIVE REGULATION OF CELL ACTIVATION	311	247	-0.5094	2.52E-06	5.62E-05
REGULATION OF HOMOTYPIC CELL CELL ADHESION	307	260	-0.4926	3.01E-06	6.63E-05
CARBOHYDRATE DERIVATIVE CATABOLIC PROCESS	174	157	-0.6315	3.43E-06	7.37E-05
EXTRACELLULAR MATRIX	426	352	-0.4214	3.42E-06	7.37E-05
REGULATION OF I KAPPAB KINASE NF KAPPAB SIGNALING	233	218	-0.5313	3.97E-06	8.34E-05
MUCOPOLYSACCHARIDE METABOLIC PROCESS	108	99	-0.7869	4.98E-06	1.01E-04
REGULATION OF T CELL MEDIATED IMMUNITY	52	45	-1.2007	5.02E-06	1.01E-04
PATTERN RECOGNITION RECEPTOR SIGNALING PATHWAY	109	96	-0.7977	5.23E-06	1.03E-04
PROTEINOUS EXTRACELLULAR MATRIX	356	297	-0.4441	6.76E-06	1.28E-04
POSITIVE REGULATION OF INFLAMMATORY RESPONSE	113	92	-0.8031	7.17E-06	1.35E-04
LEUKOCYTE MIGRATION	259	222	-0.5112	7.42E-06	1.38E-04
NEGATIVE REGULATION OF RESPONSE TO WOUNDING	156	121	-0.6839	1.04E-05	1.85E-04
AMINOGLYCAN CATABOLIC PROCESS	68	59	-0.9950	1.07E-05	1.91E-04
HYDROLASE ACTIVITY HYDROLYZING O GLYCOSYL COMPOUNDS	96	73	-0.9221	1.15E-05	2.01E-04
T CELL SELECTION	36	35	-1.3163	1.26E-05	2.20E-04
T CELL DIFFERENTIATION	123	110	-0.7071	1.41E-05	2.43E-04
SIDE OF MEMBRANE	428	343	-0.4063	1.43E-05	2.45E-04
REGULATION OF ACUTE INFLAMMATORY RESPONSE	74	62	-0.9499	1.55E-05	2.61E-04
HALLMARK IL2 STAT5 SIGNALING	200	190	-0.5302	1.69E-05	2.83E-04
POSITIVE REGULATION OF DEFENSE RESPONSE	364	312	-0.4139	1.70E-05	2.84E-04
CELLULAR RESPONSE TO INTERFERON GAMMA	122	101	-0.7284	1.84E-05	3.01E-04
NEGATIVE REGULATION OF VIRAL PROCESS	89	80	-0.8211	1.90E-05	3.08E-04
REGULATION OF TUMOR NECROSIS FACTOR SUPERFAMILY CYTOKINE PRODUCTION	101	87	-0.7777	2.29E-05	3.60E-04
LYMPHOCYTE MIGRATION	49	35	-1.2647	2.48E-05	3.84E-04
REGULATION OF ALPHA BETA T CELL PROLIFERATION	23	20	-1.7572	2.61E-05	3.99E-04
ADAPTIVE IMMUNE RESPONSE BASED ON SOMATIC RECOMBINATION OF IMMUNE RECEPTOR	154	105	-0.6911	3.31E-05	4.84E-04
I KAPPAB KINASE NF KAPPAB SIGNALING	70	68	-0.8579	3.93E-05	5.69E-04
REGULATION OF T CELL MEDIATED CYTOTOXICITY	23	19	-1.7569	4.17E-05	5.98E-04
REGULATION OF INTERFERON GAMMA PRODUCTION	97	76	-0.8031	4.46E-05	6.37E-04
REGULATION OF LYMPHOCYTE MEDIATED IMMUNITY	114	93	-0.7222	4.56E-05	6.48E-04
AMINOGLYCAN BIOSYNTHETIC PROCESS	107	103	-0.6836	4.74E-05	6.68E-04
ER TO GOLGI TRANSPORT VESICLE	71	67	-0.8544	4.78E-05	6.72E-04
REGULATION OF LYMPHOCYTE DIFFERENTIATION	132	111	-0.6560	4.96E-05	6.91E-04
NEGATIVE REGULATION OF MULTI ORGANISM PROCESS	151	124	-0.6183	5.18E-05	7.16E-04
LYMPHOCYTE CHEMOTAXIS	38	25	-1.4613	5.34E-05	7.32E-04
ALPHA BETA T CELL ACTIVATION	54	46	-1.0371	5.35E-05	7.32E-04
REGULATION OF ADAPTIVE IMMUNE RESPONSE	123	107	-0.6642	5.52E-05	7.45E-04
ER TO GOLGI TRANSPORT VESICLE MEMBRANE	55	51	-0.9787	5.55E-05	7.47E-04
REGULATION OF LEUKOCYTE PROLIFERATION	206	174	-0.5153	6.18E-05	8.20E-04
REGULATION OF LEUKOCYTE DIFFERENTIATION	232	193	-0.4844	7.27E-05	9.46E-04
REGULATION OF CYTOKINE BIOSYNTHETIC PROCESS	94	80	-0.7580	7.40E-05	9.60E-04
POSITIVE REGULATION OF INTERLEUKIN 8 PRODUCTION	45	34	-1.1958	7.69E-05	9.82E-04