

Supplementary Table 1. Expression of Th1, Th2, and Th17 Pathway Associated Genes

Gene_Symbol	Gene_ID	Transcript_ID	Gene_Description	7DW8-5 treated DSS-induced colitis mice vs. only DSS administrated mice		α-GalCer treated DSS-induced colitis mice vs. only DSS administrated mice		7DW8-5 treated DSS-induced colitis mice vs. α-GalCer treated DSS-induced colitis mice					
				Fold change	P-value	Fold change	q-value	Fold change	P-value	q-value			
Th1 pathway													
Th1 Markers:													
Ccr5	12774	NM_009917	chemokine (C-C motif) receptor 5	1.14	0.736	0.913	0.913	0.886	0.647	0.886	1.28	0.549	0.699
Cxcr3	12766	NM_009910	chemokine (C-X-C motif) receptor 3	-1.34	0.476	0.900	0.900	0.867	0.449	0.867	1.02	0.895	0.929
Ifng	15978	NM_008337	interferon gamma	1.17	0.588	0.900	0.900	0.867	0.063	0.867	-1.21	0.524	0.682
Stat4	20849	NM_011487	signal transducer and activator of transcription 4	-1.35	0.636	0.900	0.900	0.867	0.435	0.867	1.24	0.640	0.757
Tbx21	57765	NM_019507	T-box 21	-1.02	0.763	0.920	0.920	0.975	0.918	0.975	-1.02	0.675	0.780
Th1 Immune Response:													
Ccr2	12772	NM_009915	chemokine (C-C motif) receptor 2	-1.11	0.810	0.932	0.932	0.867	0.247	0.867	1.20	0.673	0.779
Cd80	12519	NM_009855	CD80 antigen	-1.18	0.635	0.900	0.900	0.867	0.315	0.867	1.03	0.917	0.944
Il12b	16160	NM_008352, NM_001303244	interleukin-12 subunit beta precursor	1.09	0.768	0.921	0.921	0.867	0.549	0.867	1.15	0.645	0.760
Il18	16173	NM_008360	interleukin 18	-2.21	0.031	0.900	0.900	0.867	0.242	0.867	-1.34	0.386	0.606
Il18bp	16068	NM_010531	interleukin 18 binding protein	1.90	0.632	0.900	0.900	0.867	0.451	0.867	1.53	0.739	0.825
Il1r1	17082	NM_001294171, NM_010743, NM_001025602	interleukin-1 receptor-like 1 isoform b precursor	-2.10	0.214	0.900	0.900	0.867	0.054	0.867	3.10	0.049	0.590
Il27ra	50931	NM_016671	interleukin 27 receptor, alpha	-1.90	0.434	0.900	0.900	0.867	0.401	0.867	1.10	0.626	0.747
Nfkβ1	18033	NM_008689	nuclear factor of kappa light polypeptide gene enhancer in B cells 1, p105	1.05	0.755	0.918	0.918	0.867	0.233	0.867	1.21	0.357	0.600
Socs5	56468	NM_019654	suppressor of cytokine signaling 5	1.28	0.238	0.900	0.900	0.867	0.415	0.867	1.48	0.068	0.590
Tlr4	21898	NM_021297	Toll-like receptor 4	1.13	0.744	0.915	0.915	0.867	0.507	0.867	1.24	0.584	0.721
Tlr6	21899	NM_011604	Toll-like receptor 6	-1.30	0.293	0.900	0.900	0.941	0.827	0.941	-1.35	0.056	0.590

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Supplementary Table 1. Continued

Gene_Symbol	Gene_ID	Transcript_ID	Gene_Description	7DW8-5 treated DSS-induced colitis mice vs. only DSS administrated mice		α-GalCer treated DSS-induced colitis mice vs. only DSS administrated mice		7DW8-5 treated DSS-induced colitis mice vs. α-GalCer treated DSS-induced colitis mice				
				Fold change	P-value	q-value	Fold change	P-value	q-value	Fold change	P-value	q-value
Vegfa	22339	NM_001025257, NM_001287057, NM_001025250, NM_001287058, NM_001110268, NM_001110267, NM_001110266, NM_009505, NM_001287056	vascular endothelial growth factor A	1.52	0.553	0.900	-1.17	0.807	0.935	1.78	0.356	0.600
Other	12487	NM_007642	CD28 antigen	-1.51	0.470	0.900	-1.54	0.459	0.867	1.02	0.815	0.875
Th1-Related Genes:	21939	NM_170704, NM_011611, NR_027852, NM_170702, NM_170703	CD40 antigen	-1.17	0.781	0.924	-1.61	0.172	0.867	1.38	0.593	0.726
Csf2	12981	NM_009969	colony stimulating factor 2 (granulocyte-macrophage)	1.29	0.057	0.900	-1.11	0.103	0.867	1.42	0.019	0.590
Il12rb2	16162	NM_008354	interleukin 12 receptor, beta 2	-1.02	0.775	0.922	1.02	0.463	0.867	-1.04	0.545	0.696
Il18r1	16182	NM_008365, NM_001161843, NM_001161842	interleukin 18 receptor 1	-1.11	0.597	0.900	-1.38	0.013	0.867	1.25	0.348	0.598
Il2ra	16184	NM_008367	interleukin 2 receptor, alpha chain	-1.45	0.524	0.900	-1.82	0.297	0.867	1.25	0.651	0.764
Irf1	16362	NM_001159396, NM_001159393, NM_008390	interferon regulatory factor 1	1.63	0.400	0.900	1.16	0.551	0.867	1.41	0.529	0.685
Socs1	12703	NM_001271603, NM_009896	suppressor of cytokine signaling 1	1.72	0.485	0.900	1.44	0.303	0.867	1.19	0.797	0.863
Stat1	20846	NM_001205314, NM_009283, NM_001205313	signal transducer and activator of transcription 1	1.48	0.515	0.900	1.14	0.335	0.867	1.30	0.642	0.758
Tnf	21926	NM_001278601, NM_013693	tumor necrosis factor	1.21	0.858	0.950	-1.01	0.982	0.996	1.23	0.834	0.887

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Supplementary Table 1. Continued

Gene_Symbol	Gene_ID	Transcript_ID	Gene_Description	7DW8-5 treated DSS-induced colitis mice vs. only DSS administrated mice		α -GalCer treated DSS-induced colitis mice vs. only DSS administrated mice		7DW8-5 treated DSS-induced colitis mice vs. α -GalCer treated DSS-induced colitis mice					
				Fold change	P-value	q-value	Fold change	P-value	q-value	Fold change	P-value	q-value	
Th2 pathway													
Th2 Markers:	Ccr4	12773	NM_009916	chemokine (C-C motif) receptor 4	-1.38	0.430	0.900	-1.36	0.449	0.867	-1.01	0.857	0.903
	Gata3	14462	NM_008091	GATA binding protein 3	-1.03	0.818	0.935	1.21	0.514	0.867	-1.25	0.461	0.643
	Stat6	20852	NM_009284	signal transducer and activator of transcription 6	1.13	0.110	0.900	-1.02	0.581	0.870	1.16	0.087	0.590
Th2 Immune Response:	Bcl6	12053	NM_009744	B cell leukemia/lymphoma 6	1.50	0.224	0.900	-1.29	0.376	0.867	1.93	0.043	0.590
	Cd27	21940	NM_001033126, NM_001286753, NM_001042564	CD27 antigen	-2.20	0.423	0.900	-2.19	0.427	0.867	-1.01	0.905	0.936
	Cd86	12524	NM_019388	CD86 antigen	-1.13	0.818	0.935	-1.37	0.014	0.867	1.21	0.721	0.812
	Il10	16153	NM_010548	interleukin 10	-1.78	0.325	0.900	-2.54	0.208	0.867	1.42	0.450	0.638
	Il6	16193	NM_031168	interleukin 6	-1.03	0.978	0.992	-1.72	0.398	0.867	1.67	0.674	0.779
Other Th2-Related Genes:	Ccl5	20304	NM_013653	chemokine (C-C motif) ligand 5	-1.24	0.812	0.933	1.08	0.903	0.972	-1.33	0.772	0.846
	Ccl7	20306	NM_013654	chemokine (C-C motif) ligand 7	1.17	0.812	0.933	-1.95	0.268	0.867	2.27	0.290	0.590
	Cebpb	12608	NM_001287738	CCAAT/enhancer-binding protein beta isoform b	1.80	0.347	0.900	-1.47	0.486	0.867	2.65	0.052	0.590
	Gfi1	14581	NM_010278, NM_001267621	growth factor independent 1	-1.46	0.033	0.900	1.41	0.382	0.867	-2.05	0.191	0.590
	Icos	54167	NM_017480	inducible T cell co-stimulator	-1.56	0.367	0.900	-1.95	0.270	0.867	1.25	0.507	0.670
	Il1r1	16177	NM_008362, NM_001123382	interleukin 1 receptor, type I	1.09	0.850	0.946	-1.82	0.287	0.867	1.98	0.211	0.590
	Il4ra	16190	NM_001008700	interleukin 4 receptor, alpha	1.35	0.485	0.900	-1.15	0.640	0.883	1.56	0.330	0.593
	Irf4	16364	NM_013674	interferon regulatory factor 4	-1.48	0.541	0.900	-1.72	0.445	0.867	1.16	0.546	0.697

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Supplementary Table 1. Continued

Gene_Symbol	Gene_ID	Transcript_ID	Gene_Description	7DW8-5 treated DSS-induced colitis mice vs. only DSS administrated mice		α -GalCer treated DSS-induced colitis mice vs. only DSS administrated mice		7DW8-5 treated DSS-induced colitis mice vs. α -GalCer treated DSS-induced colitis mice		
				Fold change	P-value	Fold change	q-value	Fold change	P-value	q-value
Jak1	16451	NM_146145	Janus kinase 1	1.09	0.742	-1.57	0.019	1.71	0.233	0.590
Junb	16477	NM_008416	jun B proto-oncogene	1.81	0.308	-1.23	0.696	2.22	0.163	0.590
Maf	17132	NM_001025577	avian musculoaponeurotic fibrosarcoma (v-maf) AS42 oncogene homolog	1.17	0.443	-1.07	0.700	1.26	0.353	0.599
Nfatc1	18018	NM_001164110, NM_001164111, NM_001164112, NM_016791, NM_001164109, NM_198429	nuclear factor of activated T cells, cytoplasmic, calcineurin dependent 1	-1.17	0.322	-1.25	0.244	1.07	0.278	0.590
Nfatc2	18019	NM_001291173, NR_111897, NM_001291171, NM_001291170, NM_001291177, NM_001291176, NM_001291175, NM_001291174, NM_010899, NM_001291169, NM_001291179, NM_001291178, NM_001291172, NM_001037177, NM_001291168, NR_111898, NM_001136073, NM_001037178	nuclear factor of activated T-cells, cytoplasmic 2 isoform f	-1.11	0.551	-1.09	0.567	-1.02	0.896	0.930
Pcgf2	22658	NM_001163308, NM_009545, NM_001163307	polycomb group ring finger 2	1.26	0.296	1.35	0.240	-1.08	0.730	0.819
Il7	16196	NM_008371	interleukin 7	-1.50	0.337	1.04	0.877	-1.55	0.311	0.592

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Supplementary Table 1. Continued

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				Fold change	P-value q-value	Fold change	P-value q-value	Fold change	P-value q-value			
Th17 pathway												
Surface Molecules:												
Cd34	12490	NM_133654, NM_001111059	CD34 antigen	-1.14	0.615	0.900	-2.57	0.101	0.867	2.26	0.008	0.590
Cd4	12504	NM_013488	CD4 antigen	-1.87	0.366	0.900	-2.37	0.291	0.867	1.27	0.573	0.714
Cd8a	12525	NM_009857, NM_001081110	CD8 antigen, alpha chain	-1.83	0.538	0.900	-1.37	0.725	0.908	-1.34	0.043	0.590
Icam1	15894	NM_010493	intercellular adhesion molecule 1	1.09	0.889	0.961	-1.71	0.036	0.867	1.86	0.408	0.616
Chemokines: Ccl2	20296	NM_011333	chemokine (C-C motif) ligand 2	1.09	0.852	0.947	-3.14	0.166	0.867	3.42	0.139	0.590
Ccl20	20297	NM_001159738, NM_016960	chemokine (C-C motif) ligand 20	-1.67	0.675	0.902	-3.86	0.082	0.867	2.32	0.524	0.682
Ccl22	20299	NM_009137	chemokine (C-C motif) ligand 22	-1.34	0.785	0.925	-2.62	0.226	0.867	1.95	0.558	0.705
Cx3cl1	20312	NM_009142	chemokine (C-X3-C motif) ligand 1	1.22	0.502	0.900	1.08	0.792	0.931	1.13	0.622	0.744
Cxcl1	14825	NM_008176	chemokine (C-X-C motif) ligand 1	-1.08	0.934	0.976	-5.21	0.107	0.867	4.81	0.255	0.590
Cxcl12	20315	NM_021704, NM_001012477, NM_013655	chemokine (C-X-C motif) ligand 12	1.38	0.500	0.900	-2.24	0.216	0.867	3.10	0.041	0.590
Cxcl2	20310	NM_009140	chemokine (C-X-C motif) ligand 2	-1.51	0.708	0.908	-2.39	0.359	0.867	1.58	0.676	0.781
Cxcl5	20311	NM_009141	chemokine (C-X-C motif) ligand 5	-1.32	0.763	0.920	-3.24	0.062	0.867	2.46	0.412	0.618
Mmp3	17392	NM_010809	matrix metalloproteinase 3	1.40	0.699	0.906	-3.68	0.219	0.867	5.16	0.183	0.590
Mmp9	17395	NM_013599	matrix metalloproteinase 9	-1.60	0.447	0.900	-2.91	0.177	0.867	1.81	0.237	0.590
Cytokines: Csf3	12985	NM_009971	colony stimulating factor 3 (granulocyte)	1.06	0.966	0.987	-2.63	0.178	0.867	2.78	0.501	0.666

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Supplementary Table 1. Continued

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				Fold change	P-value	Fold change	q-value	Fold change	P-value	q-value			
Il15	16168	NM_001254747, NM_008357	interleukin 15	1.23	0.383	0.900	0.900	1.57	0.116	0.867	-1.27	0.361	0.600
Il17a	16171	NM_010552	interleukin 17A	1.08	0.907	0.966	0.966	-1.06	0.729	0.909	1.14	0.838	0.890
Il17c	234836	NM_145834	interleukin 17C	1.18	0.653	0.901	0.901	1.02	0.872	0.958	1.16	0.696	0.794
Il17d	239114	NM_145837	interleukin 17D	1.95	0.043	0.900	0.900	1.31	0.230	0.867	1.49	0.127	0.590
Il17f	257630	NM_145856	interleukin 17F	1.69	0.602	0.900	0.900	-1.01	0.836	0.945	1.71	0.595	0.726
Il1b	16176	NM_008361	interleukin 1 beta	-1.47	0.766	0.921	0.921	-1.50	0.650	0.886	1.02	0.986	0.991
Il22	50929	NM_016971	interleukin 22	2.83	0.599	0.900	0.900	-1.10	0.643	0.884	3.12	0.570	0.712
Il23a	83430	NM_031252	interleukin 23, alpha subunit p19	1.06	0.762	0.920	0.920	1.10	0.660	0.890	-1.04	0.862	0.907
Tgfb1	21803	NM_011577	transforming growth factor, beta 1	-1.31	0.524	0.900	0.900	-2.78	0.124	0.867	2.13	0.223	0.590
Ccr6	12458	NM_009835, NM_001190338, NM_001190337, NM_001190336, NM_001190335, NM_001190334, NM_001190333	chemokine (C-C motif) receptor 6	-1.40	0.660	0.901	0.901	-2.02	0.374	0.867	1.45	0.566	0.710
Il12rb1	16161	NM_008353	interleukin 12 receptor, beta 1	-1.11	0.715	0.910	0.910	-1.08	0.767	0.921	-1.03	0.895	0.929
Il17ra	16172	NM_008359	interleukin 17 receptor A	-1.26	0.278	0.900	0.900	-1.27	0.134	0.867	1.01	0.956	0.970
Il17rb	50905	NM_019583	interleukin 17 receptor B	1.04	0.793	0.927	0.927	1.16	0.028	0.867	-1.11	0.535	0.689
Il17rc	171095	NM_178942, NM_134159	interleukin 17 receptor C	-1.10	0.459	0.900	0.900	1.15	0.359	0.867	-1.27	0.108	0.590
Il17re	57890	NM_001034029, NM_145826, NM_001034031	interleukin 17 receptor E	-1.30	0.570	0.900	0.900	1.20	0.271	0.867	-1.56	0.397	0.611
Il23r	209590	NM_144548	interleukin 23 receptor	1.01	0.953	0.984	0.984	-1.06	0.385	0.867	1.06	0.509	0.671
Il6ra	16194	NM_010559	interleukin 6 receptor, alpha	1.03	0.916	0.969	0.969	-1.54	0.152	0.867	1.59	0.257	0.590

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Supplementary Table 1. Continued

Gene_Symbol	Gene_ID	Transcript_ID	Gene_Description	7DW8-5 treated DSS-induced colitis mice vs. only DSS administrated mice		α-GalCer treated DSS-induced colitis mice vs. only DSS administrated mice		7DW8-5 treated DSS-induced colitis mice vs. α-GalCer treated DSS-induced colitis mice		
				Fold change	P-value	Fold change	q-value	Fold change	P-value	q-value
Signaling Pathway Molecules and Transcriptional Factors:	Clec7a	NM_020008	C-type lectin domain family 7, member a	1.22	0.792	1.04	0.688	1.17	0.830	0.885
	Foxp3	NM_001199348, NM_001199347, NM_054039	forkhead box P3	-1.42	0.419	-1.24	0.569	-1.14	0.160	0.590
Transcriptional Factors:	Isg20	NM_001113527, NM_001291221, NM_001291220, NM_020583	interferon-stimulated gene 20 kDa protein isoform a	-2.11	0.457	-2.18	0.453	1.03	0.934	0.956
	Jak2	NM_001048177, NM_008413	Janus kinase 2	1.12	0.766	-1.14	0.468	1.28	0.557	0.704
Rora	19883	NM_001289916, NM_001289917, NM_013646	nuclear receptor ROR-α isoform 3	1.37	0.151	-1.20	0.277	1.64	0.102	0.590
Rorc	19885	NM_011281, NM_001293734, NR_121656	nuclear receptor ROR-γ isoform 2	1.17	0.538	1.05	0.690	1.11	0.663	0.772
Runx1	12394	NM_00111021, NM_00111022, NM_00111023, NM_009821	runt related transcription factor 1	-1.01	0.927	-1.13	0.236	1.11	0.541	0.694
S1pr1	13609	NM_007901	sphingosine-1-phosphate receptor 1	-1.44	0.348	-3.44	0.041	2.40	0.122	0.590
Socs3	12702	NM_007707	suppressor of cytokine signaling 3	1.85	0.238	-1.17	0.789	2.17	0.288	0.590
Stat3	20848	NM_213659, NM_011486, NM_213660	signal transducer and activator of transcription 3	1.51	0.261	-1.35	0.362	2.03	0.081	0.590
Stat5a	20850	NM_001164062, NM_011488	signal transducer and activator of transcription 5A	-1.14	0.374	-1.08	0.551	-1.06	0.654	0.766
Syk	20963	NM_001198977, NM_011518	spleen tyrosine kinase	-1.09	0.863	-1.33	0.037	1.22	0.708	0.803
Traf6	22034	NM_009424, NM_001303273	TNF receptor-associated factor 6	1.19	0.401	1.18	0.367	1.01	0.957	0.971

Th1, T helper type 1; DSS, dextran sulfate sodium; α-GalCer, α-galactosylceramide.