Supplementary dataset 1.

Differentially expressed genes in the colon of CTL and CS mice.

Gene (upregulated)	Average log (fold change)	Adjusted P value	Gene (downregulated)	Average log (fold change)	Adjusted P value
Ifit1bl1	-1.175	0	Npc2	0.40119	1.234E-132
Duoxa2	-0.9858	4.677E-175	2610528A11Rik	0.40252	5.50145E-39
Clca4a	-0.9432	2.7615E-286	Ndufa5	0.40305	5.2979E-143
Duox2	-0.8403	1.0162E-175	Cox5b	0.40522	6.4175E-191
Aqp8	-0.8228	0	Mpc2	0.40523	3.4393E-149
mt-Nd3	-0.8177	1.6012E-168	Psma7	0.40656	1.9464E-147
Clec2h	-0.7382	3.9895E-198	Hint2	0.40695	4.3669E-167
Ier5	-0.7131	1.7412E-145	Phb2	0.40729	2.2961E-140
Slc9a2	-0.6839	2.6178E-169	Cox7a1	0.40846	9.9667E-120
Prom1	-0.6713	2.5537E-144	Carhsp1	0.40914	5.7441E-157
Cdhr2	-0.6632	3.0312E-231	Minos1	0.40982	1.6787E-142
St14	-0.6588	3.8187E-167	Tomm7	0.41009	1.9898E-136
2010109I03Rik	-0.6541	8.8765E-236	Ndufv3	0.41058	1.087E-153
Mep1a	-0.6443	1.9258E-190	Sec11c	0.41081	2.199E-158
Cd38	-0.6426	1.5406E-99	Cyba	0.41118	7.2836E-169
mt-Atp8	-0.6367	7.1915E-130	H2afv	0.41142	3.3871E-138
Ifngr1	-0.6236	5.385E-175	Ier2	0.41197	2.7578E-109
Emp1	-0.6202	3.9469E-133	Tagln2	0.41392	2.3151E-148
Tmigd1	-0.6163	1.7573E-106	Stard4	0.41468	2.19E-171
2210407C18Rik	-0.6077	5.13691E-55	0610011F06Rik	0.41544	1.4503E-175
Neu1	-0.6026	9.6611E-152	Car2	0.41668	4.62956E-93
Irf1	-0.5985	9.9983E-102	Ndufb2	0.41726	2.056E-151
Krt20	-0.5948	4.3087E-189	Hspd1	0.41761	2.9049E-149
Id3	-0.5927	1.51198E-60	Cox5a	0.41806	8.2287E-180
Prss23	-0.5806	1.77581E-84	Rps27l	0.41924	4.1195E-135
Ctss	-0.5795	9.2505E-158	Krt18	0.41949	6.9484E-165
Mall	-0.5763	1.3663E-111	Ndufs2	0.41975	4.1512E-161
4930539E08Rik	-0.5702	1.0554E-102	Cox7a2	0.42036	1.3419E-180
B3galt5	-0.5679	1.07463E-78	Plp2	0.42272	2.7473E-151
1810065E05Rik	-0.5641	2.2285E-181	Sepw1	0.42323	4.3651E-176
Ptprr	-0.5607	1.145E-125	Guk1	0.42379	4.7571E-180
Ly6a	-0.5604	2.51263E-81	Cyc1	0.42418	1.9469E-147
Lhfpl2	-0.5589	2.81621E-94	Eef2	0.42431	2.27555E-94

Cyp2d34	-0.5534	6.7575E-162	Park7	0.42726	1.2553E-184
Sgk1	-0.5532	2.05942E-88	Krt7	0.42815	1.4531E-147
Hpgd	-0.5497	1.0689E-66	Uqcrc1	0.42951	2.3731E-147
Tmem140	-0.5459	2.48224E-92	Hsp90b1	0.43278	2.2496E-131
St3gal4	-0.5455	1.6503E-109	Mrpl12	0.43284	3.6336E-166
Sptlc2	-0.5346	9.62428E-83	Sec61g	0.43338	1.8982E-176
Cyp2d10	-0.5293	1.17982E-58	Mrpl30	0.43613	1.0147E-180
Efna1	-0.5266	2.68239E-67	Serbp1	0.43935	1.0939E-140
Acox1	-0.5249	6.1694E-99	Snhg18	0.4401	6.4069E-190
Gramd3	-0.5179	1.08658E-58	Ndufs5	0.44073	3.1015E-170
Nuak2	-0.5177	2.84082E-69	Snrpd2	0.44165	2.0498E-174
Cyp2d9	-0.5159	4.23141E-84	Fkbp2	0.4424	2.2005E-186
Slc35f5	-0.5155	1.38765E-73	Fosb	0.4429	2.0465E-120
Tinagl1	-0.5033	9.24281E-64	Ndufs8	0.44387	8.4369E-182
Ctsl	-0.503	1.10413E-88	Ndufb7	0.44505	3.5285E-176
Ctsz	-0.5026	4.21024E-76	Timm13	0.44639	2.2358E-175
Ndrg1	-0.4976	3.06947E-38	Mrpl42	0.44775	9.7114E-185
Fabp2	-0.4941	2.23626E-71	H2afj	0.44952	3.1744E-193
Ceacam20	-0.4919	6.0444E-121	Clca1	0.45198	2.5477E-128
Gcnt3	-0.4894	8.59474E-42	Sh3bgrl3	0.45281	4.1218E-212
Stom	-0.4857	2.3724E-74	Sat1	0.45383	3.7777E-168
Fosl2	-0.4791	6.89295E-58	B3gnt7	0.45862	6.5074E-120
Max	-0.4772	5.60169E-88	Sox9	0.46313	1.5072E-189
H2-Q2	-0.4734	2.19657E-60	Hspa8	0.46487	3.1438E-138
Mep1b	-0.4713	1.35878E-67	Eif3h	0.46558	1.8059E-145
Sppl2a	-0.4666	5.18949E-52	Nme1	0.46703	2.0733E-185
Nxpe4	-0.4658	1.91427E-66	Mgst2	0.46766	4.6431E-182
Clrn3	-0.4593	1.45452E-58	Mgst1	0.46769	3.3448E-167
Sprr2a1	-0.4582	3.05833E-74	Eef1d	0.46962	1.089E-166
Irf7	-0.4577	6.40962E-50	S100a1	0.46968	3.2507E-175
Casp4	-0.4488	1.29922E-46	Hoxb13	0.47054	3.8334E-161
Noct	-0.4473	5.64986E-56	Psmb6	0.47153	9.0861E-196
Sqstm1	-0.4434	1.12881E-57	Ndufb6	0.47206	1.0259E-185
Ptprh	-0.432	2.39966E-58	Ccnd2	0.4791	1.9829E-155
Mxd1	-0.4316	1.6021E-132	Nfkbia	0.47965	3.34575E-69
Atp12a	-0.4312	2.45763E-13	Ndufs6	0.48022	5.6824E-190
Adm	-0.4262	1.74078E-28	Ndufc2	0.48313	4.2197E-165
Ccng2	-0.4227	6.38759E-62	Atp5j2	0.48429	7.7502E-244

Tmem236	-0.4207	6.67841E-56	Zfos1	0.48581	8.6108E-179
Sprr2a3	-0.4191	2.0109E-131	Ndufa12	0.48656	3.2823E-190
Ppm1j	-0.4188	1.62366E-57	Atp5d	0.48848	1.9808E-256
Car4	-0.4171	1.0575E-143	Pfdn5	0.49069	4.0017E-219
Pls1	-0.4158	1.88223E-54	Nt5c	0.49119	7.4369E-211
Ncoa7	-0.4123	3.87549E-20	Ndufs7	0.49227	1.7794E-195
Cables1	-0.4069	2.24515E-53	Gm10073	0.49309	1.7944E-163
Ly6g	-0.4036	1.32193E-23	Fau	0.49356	0
Nt5e	-0.4033	5.10341E-53	Ifitm2	0.49361	3.7085E-213
Abhd2	-0.4026	6.2806E-28	Ppib	0.49372	5.0387E-189
			Eif3k	0.49486	1.4716E-168
			1110001J03Rik	0.50126	3.6841E-225
			Oaz1	0.50229	1.5577E-238
			Hsp90aa1	0.50441	3.1569E-136
			Ndufc1	0.5049	1.6616E-180
			Sult1a1	0.50992	7.9619E-198
			Aqp4	0.50994	1.7697E-164
			Tnni1	0.51029	3.1935E-157
			Fcgbp	0.51039	9.2042E-168
			S100a16	0.51285	5.7242E-227
			Eif3i	0.51367	6.6366E-183
			Pebp1	0.51402	8.9074E-167
			Cd24a	0.5169	2.4151E-179
			Ndufa11	0.51969	4.4535E-215
			Uqcrq	0.52023	1.9583E-236
			Gmds	0.52162	2.5329E-191
			Pgls	0.52228	4.708E-220
			Prdx2	0.52446	1.2384E-214
			Serf2	0.52771	0
			Cox6c	0.52933	1.9426E-262
			Cela1	0.53013	7.9333E-188
			Ndufa2	0.53846	1.601E-247
			Gm10076	0.54094	1.0382E-199
			Ppa1	0.5454	1.5551E-212
			Cox7a2l	0.54868	2.5237E-199
			Mgst3	0.54891	1.7919E-175
			Hes1	0.55303	7.7981E-175
			Arl4a	0.55582	7.2359E-209

	Ssr4	0.56074	1.0874E-213
	Ptms	0.56275	1.3554E-241
	Wbp5	0.56591	4.4411E-166
	Egr1	0.57583	1.3523E-186
	Rnf186	0.58545	2.9722E-202
	Ndufb8	0.58587	4.3783E-251
	Sec61b	0.59134	4.9213E-201
	Stard10	0.59322	2.2869E-217
	Hist1h2ap	0.59451	5.3452E-99
	Eif3f	0.59583	1.6843E-179
	Ndufb10	0.60295	3.7312E-266
	Atp5c1	0.60338	3.5342E-238
	Acta1	0.60519	1.7634E-157
	Phlda1	0.60579	2.7428E-187
	Ndufb11	0.61091	2.9188E-244
	Ppp1r1b	0.61117	7.0388E-238
	Rpl27	0.61228	2.656E-208
	Rpl41	0.61435	0
	Hint1	0.61767	0
	Gpx1	0.61997	5.1391E-264
	Ndufa13	0.6209	0
	Atp5o	0.62232	0
	Mrps24	0.63041	2.7236E-270
	Npm1	0.63181	7.6327E-164
	Hspe1	0.64688	7.7774E-210
	Atp5l	0.64911	0
	Krt19	0.65047	0
	Ndufab1	0.65083	2.2422E-255
	Mrpl52	0.65186	9.4515E-249
	Ndufa7	0.65368	2.3008E-273
	Hmgcs2	0.65576	4.6047E-243
	Selm	0.65814	5.3699E-193
	Smim6	0.66138	1.155E-255
	Atp5h	0.66162	0
	2410015M20Rik	0.66259	0
	Ifrd1	0.66423	6.2041E-243
	Tstd1	0.6643	1.4532E-239
	Cyr61	0.66631	3.6798E-217

	Rps27	0.66873	0
	Nupr1	0.67021	2.985E-228
	Gsdmc4	0.67284	1.0793E-192
	Klf5	0.67477	3.8234E-222
	Ndufa4	0.67702	3.0896E-216
	Ndufb5	0.67707	1.3145E-253
	Zg16	0.68127	2.113E-229
	Ndufb9	0.68296	0
	Tppp3	0.6838	9.3389E-199
	Chchd10	0.68384	0
	Uqcr11	0.6894	0
	Eef1g	0.6943	1.4072E-192
	Wfdc2	0.69487	2.4778E-236
	Hsd11b2	0.69522	9.6151E-167
	Scd2	0.69668	8.2174E-275
	Thbs1	0.69743	1.5433E-228
	Atpif1	0.70176	0
	Uqcr10	0.71142	0
	Tpt1	0.71169	0
	Cox4i1	0.71308	0
	Hao2	0.71932	2.5011E-213
	Nans	0.7217	1.5472E-269
	Atp5e	0.72588	0
	Glul	0.73071	0
	Rps29	0.7407	0
	Rpl36al	0.74486	3.4271E-251
	Mat2a	0.74898	2.7673E-249
	Uqcrh	0.75237	0
	Rps25	0.76301	7.7979E-242
	Naca	0.76375	2.8723E-259
	Nr4a1	0.76554	2.9463E-228
	Tff3	0.76588	0
	Oit1	0.76678	0
	Gdf15	0.77432	1.5844E-250
	Ptma	0.77572	1.9942E-201
	Rpl18	0.78183	0
	Rpl24	0.79677	1.9309E-295
	Rpl31	0.80078	1.7233E-286

	Rpl38	0.80263	0
	Rpl30	0.80531	3.477E-252
	Rpl15	0.80897	2.6877E-225
	Uba52	0.8093	0
	Atp5g2	0.81433	0
	Hbegf	0.81765	1.7588E-297
	Klk1	0.83037	6.9026E-300
	Rpl37	0.83315	0
	Csrp2	0.8414	1.2442E-286
	Rpl22	0.84262	2.9237E-280
	Rps21	0.87945	1.3048E-301
	Rpl5	0.88043	2.7329E-254
	Pycard	0.88484	0
	Eef1b2	0.89384	1.3385E-264
	Areg	0.89564	1.9164E-302
	Rpl7	0.90133	5.1969E-298
	Rpl19	0.90389	0
	Rpl9	0.90454	0
	Rpl4	0.91344	2.7824E-273
	Rpl23a	0.91625	0
	Rps28	0.91954	1.3633E-279
	Rpl7a	0.92002	0
	Rps20	0.92763	0
	Rpl17	0.94891	0
	Rpl29	0.95917	0
	Rps13	0.96061	0
	Rps16	0.96098	0
	Rps26	0.96562	0
	Rpl23	0.96642	0
	Gpx2	0.96785	0
	Rpl11	0.97381	0
	Rpl28	0.97704	0
	Rps10	0.98074	0
	Atp5g1	0.98238	0
	Atf3	0.98587	0
	Rpl34	0.98693	0
	Rpl35a	0.9871	0
	Rps11	0.99213	0

	Rpl6	1.00015	0
	Rpl18a	1.00206	0
	Hsp90ab1	1.00502	1.0781E-300
	Gnb2l1	1.024	1.1653E-298
	Eef1a1	1.02895	0
	Rpl8	1.03004	0
	Rpl22l1	1.03265	0
	Rps15a	1.03313	0
	Rpl21	1.03335	0
	Rpl13a	1.04495	0
	Rpl12	1.04995	0
	Rpl10	1.05107	0
	Rps15	1.07035	0
	Rps3a1	1.07942	0
	Rpl27a	1.08931	0
	Rps3	1.0894	0
	Rplp2	1.09329	0
	Rps23	1.09967	0
	Rps17	1.1035	0
	Ppia	1.10471	0
	Rpsa	1.10491	0
	Rpl37a	1.10502	0
	Ccl6	1.11304	5.055E-252
	Rps6	1.12028	0
	Rps7	1.12571	0
	Rpl36a	1.13601	0
	Rpl39	1.14609	0
	Rplp1	1.1558	0
	Rpl14	1.16849	0
	Rpl13	1.17374	0
	Rps9	1.17521	0
	Rps24	1.17981	0
	Rps14	1.19664	0
	Rpl26	1.23881	0
	Rps12	1.24126	0
	Rps27a	1.24184	0
	Rps5	1.24987	0
	Rpl36	1.25373	0

	Rpl3	1.2592	0
	Rplp0	1.2714	0
	Rps8	1.27706	0
	Muc2	1.28174	0
	Rpl35	1.28692	0
	Rps4x	1.32447	0
	Rps2	1.3387	0
	Rps19	1.35505	0
	Rps18	1.38048	0
	Rpl32	1.40799	0
	Sval1	1.43648	0
	Rpl10a	1.45522	0
	Reg4	1.50425	0
	Agr2	1.97307	0
	Spink4	2.2038	0
	Mptx1	2.91614	0

Supplementary dataset 2.

Differentially expressed genes in the colon of CS and CS+Pg mice.

Gene (upregulated)	Average log (fold change)	Adjusted P value	Gene (downregulated)	Average log (fold change)	Adjusted P value
Hbb-bs	-3.267233944	0	Prr15l	0.402527665	4.64943E-97
Mptx1	-2.214149839	0	Tspan3	0.413094551	8.29438E-82
Ang4	-1.463565786	0	Ddit4	0.4135868	9.98774E-46
Gsdmc4	-1.362834016	0	Mep1a	0.424437353	1.1023E-100
Plet1	-1.275291355	0	Nudt4	0.425405731	9.5047E-111
Gsdmc2	-1.272086627	0	Cldn4	0.426168512	4.67471E-24
Retnlb	-1.228736262	0	Ugdh	0.474302378	3.6889E-111
Spink4	-1.180058462	0	Dusp1	0.481313476	3.05854E-65
Phlda1	-0.935554542	0	Sepp1	0.491244893	3.42E-174
Duoxa2	-0.855883234	0	Tmem171	0.495882824	1.44812E-81
Fcgbp	-0.827350936	1.214E-273	Fam134b	0.49714498	8.7107E-100
Duox2	-0.645098192	8.5088E-186	Max	0.518984765	1.9062E-122
Clca1	-0.629445997	4.342E-177	Mkrn1	0.526623621	4.5849E-185
Hk2	-0.569430978	3.8537E-156	Prss23	0.58344447	1.625E-105
Agr2	-0.544803388	4.9527E-104	Ctss	0.584630804	1.001E-185
Trim40	-0.5429663	3.2296E-171	Hpgd	0.65214054	4.1862E-132
Tnip3	-0.540176983	3.8636E-154	Tgm3	0.761811001	7.6488E-188
Ncoa7	-0.527796486	2.0558E-109	Mt1	0.92469553	7.77047E-85
Rps24	-0.526010514	1.0906E-126	Sgk1	0.954893973	2.4675E-288
Cd55	-0.524011985	1.021E-176			
Ccdc71l	-0.496846841	6.9679E-127			
Sprr1a	-0.483765703	1.3293E-100			
Rplp1	-0.481972953	4.5074E-125			
Rps12	-0.4801035	5.79768E-93			
Rpl10a	-0.471483049	3.37E-113			
Rplp2	-0.467895971	8.4983E-116			
Slc6a14	-0.466924878	2.8476E-104			
Rpl39	-0.464562788	2.3016E-135			
Trim15	-0.461999597	1.478E-120			
Rpl32	-0.461551033	2.1693E-117			
Areg	-0.459214439	2.2407E-100			
Pigr	-0.457981981	1.4858E-170			
Atpif1	-0.444364373	6.4976E-137			
Rps18	-0.444006139	3.2123E-97			

AY036118	-0.439897901	2.18E-146	
Rps15	-0.437589628	1.1387E-91	
Slc51b	-0.43531282	8.6994E-112	
Rps14	-0.432033822	5.6372E-157	
Vmp1	-0.428841743	3.1142E-116	
Muc2	-0.428652553	4.01495E-93	
Rpl35	-0.425960426	2.80854E-86	
Rrbp1	-0.420205797	1.3887E-121	
Sptssb	-0.416350119	1.0525E-82	
Rpl36	-0.413083169	2.22886E-97	
Rps2	-0.411612551	6.41015E-69	
Rps4x	-0.410467469	1.27059E-82	
Rpl13a	-0.409620636	4.40792E-76	
Tstd1	-0.405202906	1.0887E-104	
Rpl37a	-0.40503853	4.1677E-117	
Rps15a	-0.403839409	8.02576E-86	
Slc5a8	-0.400503152	5.2096E-103	

Supplementary dataset 3.

Differentially expressed genes in the lung of CTL and CS mice.

Gene (upregulated)	Average log (fold change)	Adjusted P value	Gene (downregulated)	Average log (fold change)	Adjusted P value
Iglc2	-0.9118	5.7E-32	Prdx5	0.40833	1E-08
Cd79a	-0.9115	1.8E-55	Cd9	0.40956	0.00025
Cd79b	-0.8658	1.9E-52	Lmnb1	0.41513	3.7E-05
Ighm	-0.865	1.6E-39	Lst1	0.42051	3.7E-14
Igkc	-0.7647	9.9E-29	Fcer1g	0.42686	1.1E-20
Cd74	-0.6977	2.3E-36	Pglyrp1	0.43044	5.5E-06
H2-Ab1	-0.6949	7.8E-37	Ifitm3	0.45893	6.9E-14
Ighd	-0.6869	4.7E-43	Clec4d	0.46042	2.1E-15
H2-DMb2	-0.6633	2.3E-40	Grina	0.46948	4.5E-09
Ms4a1	-0.6504	2.8E-36	Ccl5	0.47609	5.6E-24
Ly6d	-0.6321	5.4E-27	Hbb-bs	0.48121	2.1E-49
H2-Eb1	-0.6099	6.3E-34	S100a6	0.48431	2.4E-12
Fcmr	-0.6	3E-37	Cox17	0.48691	3.6E-07
H2-Aa	-0.5889	9.8E-33	Ifi27l2a	0.52876	1.3E-09
Ebf1	-0.5093	7E-33	S100a8	0.54451	4.5E-93
H2-DMa	-0.4775	1.6E-26	Tyrobp	0.54703	2.7E-33
Ly6e	-0.4721	3.6E-24	Msrb1	0.54907	8.5E-11
Scd1	-0.4522	2E-27	Slc7a11	0.55274	2.9E-15
Id3	-0.4288	1.9E-20	Cebpb	0.56157	1.8E-20
Mef2c	-0.4182	2.6E-19	C5ar1	0.56475	4.7E-15
Ptprcap	-0.4155	2.8E-23	Hdc	0.59107	1E-16
H2-Ob	-0.4107	4.4E-19	S100a9	0.64289	9E-122
			Ifitm2	0.65068	1.2E-34
			Cd14	0.68076	1.1E-16
			Il1r2	0.75909	2.8E-25
			Scgb1a1	2.18708	1E-296

Supplementary dataset 4.

Differentially expressed genes in the lung of CS and CS+Pg mice.

Gene (upregulated)	Average log (fold change)	Adjusted P value	Gene (downregulated)	Average log (fold change)	Adjusted P value
Scgb1a1	-1.9779	5E-231	Cd37	0.4069	4.3E-19
Wfdc17	-1.0097	4E-14	Ebf1	0.44106	5.3E-20
Ifitm2	-0.8556	5.4E-23	H2-DMa	0.44354	1.5E-18
Cd14	-0.8247	1.1E-14	Ly6e	0.45866	3.2E-22
S100a9	-0.802	4.7E-62	Cd81	0.46265	3.1E-19
Cebpb	-0.8008	2.1E-37	Iglc2	0.50118	6E-13
S100a8	-0.7995	2.1E-55	Igkc	0.52325	1.2E-17
Ifitm3	-0.7125	7.2E-17	Fcmr	0.56835	1.4E-26
Ifi27l2a	-0.5776	2.4E-09	H2-DMb2	0.61811	1.6E-28
Slpi	-0.5647	9.4E-08	H2-Eb1	0.62076	1.1E-26
Grina	-0.5492	0.00013	Apoe	0.6447	3E-14
Clec4d	-0.4998	2E-11	H2-Aa	0.65503	7.4E-33
Anxa1	-0.4732	1.1E-09	Cd79b	0.67693	2.1E-34
Fcer1g	-0.4496	1.4E-09	H2-Ab1	0.70707	8.2E-32
S100a6	-0.4353	2.4E-06	Ighm	0.70757	2E-29
Pglyrp1	-0.4332	0.04941	Cd74	0.71084	1.7E-38
Il1r2	-0.4312	2.4E-07	Ighd	0.72306	6.5E-34
Plek	-0.4277	6.6E-05	Cd79a	0.7922	5.8E-36
Tyrobp	-0.4009	2.7E-08			