

## **Supplementary information**

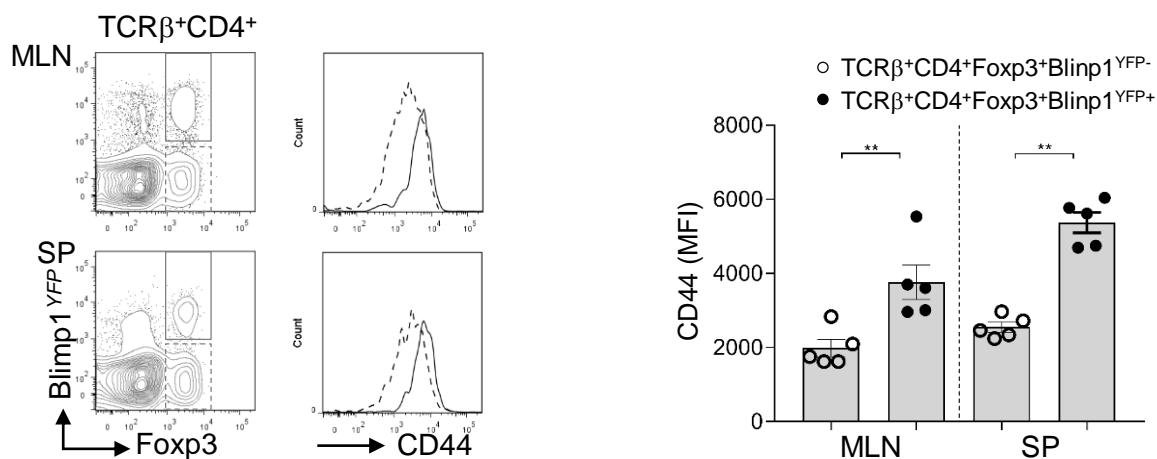
### **Differential regulation of Effector and Regulatory T cell function by Blimp1**

Rashmi Bankot\*, Chihiro Ogawa\* Truc Nguyen, Lena Emadi, Michael Couse, Soofia Salehi, Xuemo Fan, Deepti Dhall, Yizhou Wang, Jordan Brown, Vincent Funari, Jie Tang, and Gislaine A. Martins

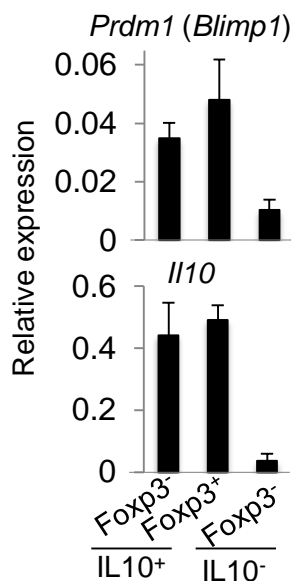
\*These authors contributed equally to this work.

# SUPPLEMENTARY FIGURE 1

**A**



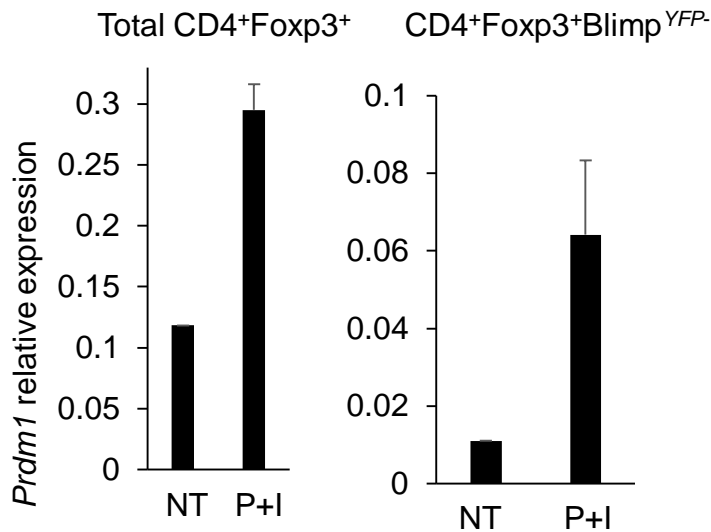
**B**



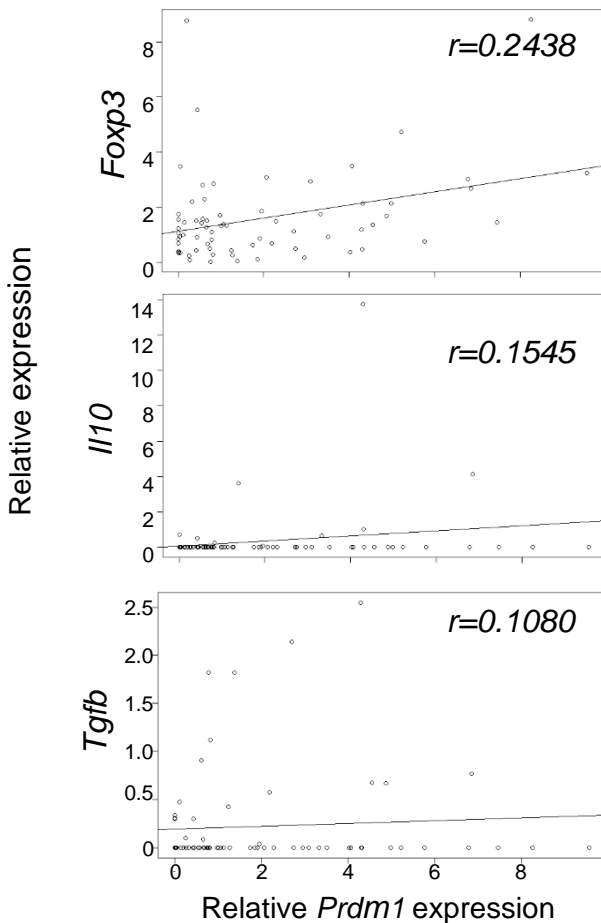
**Blimp-1 expression in Treg and Teff cells (A)** Left, Histograms show CD44 expression in TCRβ+CD4+Foxp3+Blimp<sup>YFP+</sup> (gate showed in left side FACS plot, solid line) and TCRβ+CD4+Foxp3+Blimp<sup>YFP-</sup> (dashed line) in MLN and SP. Right, bar graph shows average percentage ± SEM of MFI of CD44<sup>+</sup> cells in TCRβ+CD4+Foxp3+Blimp<sup>YFP+</sup> (filled circles) and TCRβ+CD4+Foxp3+Blimp<sup>YFP-</sup> (open circles) cells in MLN and SP. Each symbol represents one mouse and N=5. **(B)** qRT-PCR analysis of *Prdm1* and *Il10* mRNA in sorted CD4+Foxp3<sup>GFP-</sup>IL10<sup>+</sup> (Tr1), total Foxp3<sup>GFP+</sup> and Foxp3<sup>GFP-</sup>IL10<sup>-</sup>CD4<sup>+</sup> T cells from IL10 10Bit-Foxp3<sup>GFP</sup> mice. (N=3 mice/group). \**P*<0.05, \*\**P*<0.01, paired *t*-test.

## SUPPLEMENTARY FIGURE 2

**A**



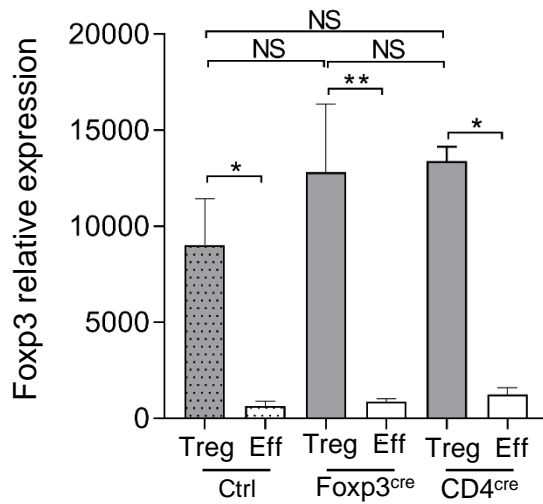
**B**



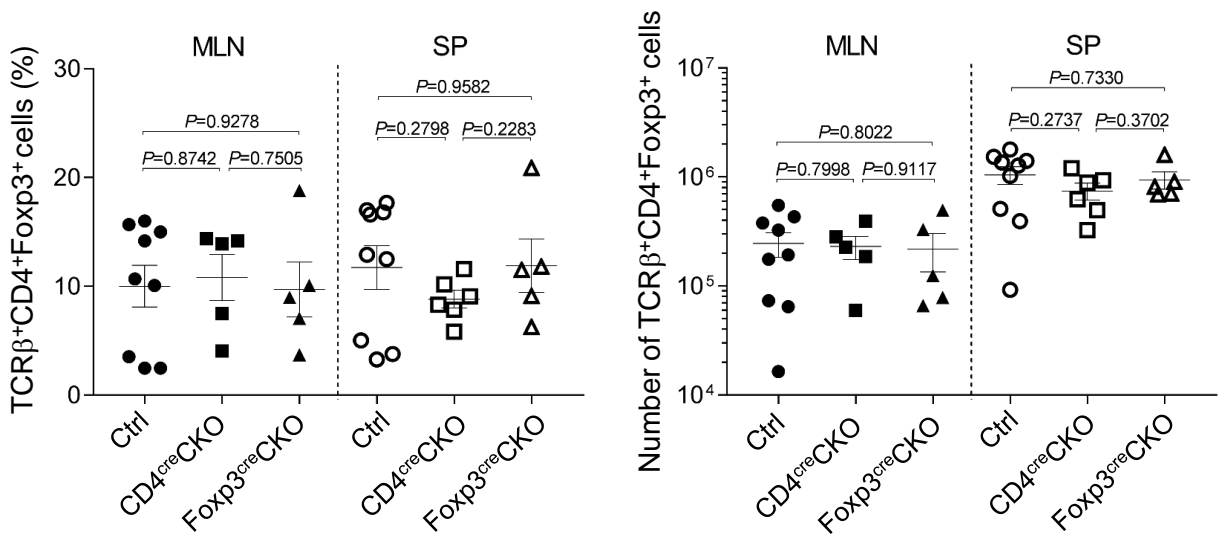
**Blimp1 expression is induced upon TCR stimulation in Foxp3<sup>+</sup> Treg cells but does not correlate with cytokine expression.** (A) Graphs showing relative expression of *Prdm1* (*Blimp1*) by qRT-PCR in bulk sorted total (CD4<sup>+</sup> Foxp3<sup>+</sup>) and Blimp<sup>YFP-</sup> (Foxp3<sup>+</sup>Blimp1<sup>YFP-</sup>) Treg cells before (NT) and after in vitro TCR stimulation (4hours, PMA and ionomycin, P+I). (B) Graphs showing correlation of *Prdm1* and *Foxp3* (top), *Il10* (middle) or *Tgfb* (bottom) expression in CD4<sup>+</sup>CD25<sup>high</sup>T cells. Regression line is presented in each graph. Each symbol represents one cell.

**SUPPLEMENTARY FIGURE 3**

**A**

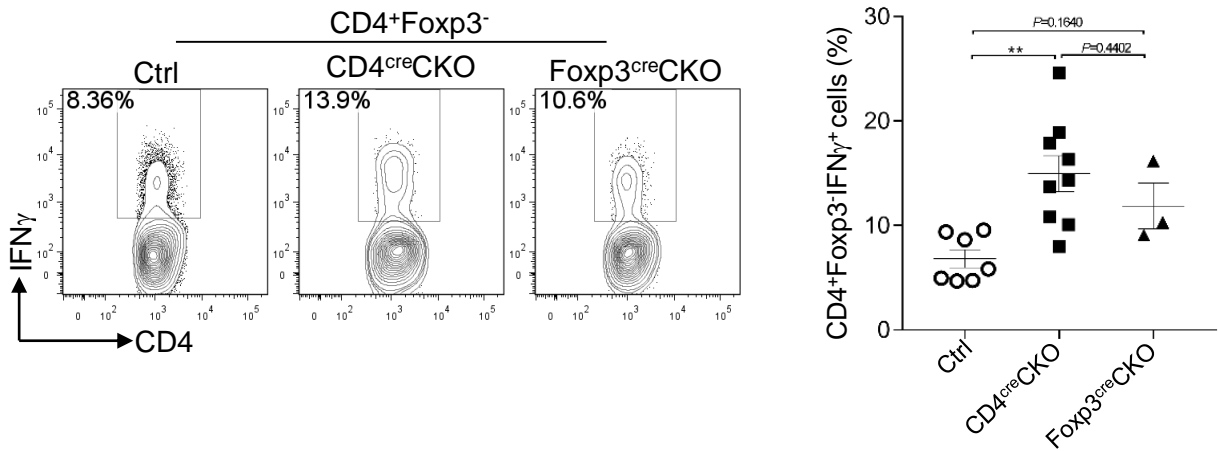


**B**



**CD4 or Foxp3-driven CRE expression does not alter Fxp3 expression or Fxp3<sup>+</sup> cell numbers.** (A) Expression of Fxp3 mRNA (qRT-PCR, relative to b2Microglobulin) in sorted Treg (CD4<sup>+</sup> Fxp3<sup>+</sup>) and Teff (CD4<sup>+</sup> Fxp3<sup>-</sup> CD44<sup>high</sup>) cells from control (*Prdm1*<sup>+/+</sup>), FOXP3<sup>CRE</sup> CKO (*Prdm1*<sup>F/F</sup> Foxp3<sup>cre</sup>), and CD4<sup>cre</sup>CKO (*Prdm1*<sup>F/F</sup> CD4<sup>cre</sup>) mice. (B) Scatter plots showing the frequency (left) and absolute numbers (right) of TCRβ<sup>+</sup>CD4<sup>+</sup>Fxp3<sup>+</sup> cells in the mesenteric lymph nodes (MLN) and spleen (SP) from control (Ctrl) and Blimp1 CKO (CD4<sup>cre</sup>CKO or Foxp3<sup>cre</sup>CKO) mice. N≥5 mice/group. Bars indicate average ± SEM. P-values were calculated by one-way ANOVA.

## SUPPLEMENTARY FIGURE 4



**Foxp3<sup>+</sup>Treg cell-specific deletion of Blimp1 does not alter IFN $\gamma$  production in CD4<sup>+</sup>Teff cells.** FACS plots (left) and scatter plots (right) showing the frequency of IFN $\gamma$ <sup>+</sup>CD4<sup>+</sup>Foxp3<sup>-</sup> cells in spleen cells of control (Ctrl) and Blimp1 CKO (CD4<sup>cre</sup>CKO or Foxp3<sup>cre</sup>CKO) mice. Cells were stimulated with anti-CD3 and antiCD28 for 24 hours (BFA added in the last 6 hours) prior to staining and analysis. Scatter plot (right): Each symbol represents one mouse (N $\geq$ 3 mice/group). Bars indicate average  $\pm$  SEM. \*\**P*<0.01, one-way ANOVA.

**SUPPLEMENTARY TABLE 1. List of Differentially expressed (DE) genes.** DE genes (1.5-fold at  $P < 0.05$ ) in pTreg and Teff cells (CD4<sup>cre</sup>CKO versus Ctrl) generated from Ctrl and CD4<sup>cre</sup>CKO CD4<sup>+</sup> naive T cells co-injected into RAG1<sup>-/-</sup> mice and submitted to mRNA microarray analysis.

Gene	Up/Down_pTreg		Gene	log2FC (KO_pTreg/W T_pTreg)	pvalue
	log2FC (KO_pTreg/WT_ pTreg)	pvalue			
Ccr6	2.520919234	0.0141	Cxcr3	0.923256362	0.0260
Pdlim1	2.273355608	0.0000	Ece1	0.918057313	0.0056
Msc	2.220397777	0.0018	Cxcr5	0.908289177	0.0092
Pou2af1	2.049579392	0.0003	Kcnn4	0.893542811	0.0342
Crtam	1.947450066	0.0073	Ccdc50	0.885353084	0.0001
Idi2	1.863956018	0.0005	Capn5	0.871089256	0.0010
Il17f	1.794787661	0.0031	Ankrd46	0.86157782	0.0054
Gypc	1.636661509	0.0000	Kras	0.858361977	0.0015
Xcl1	1.624664511	0.0022	Stat4	0.851729084	0.0018
Erc6l2	1.521558802	0.0001	Jazf1	0.847377688	0.0364
Dnase1l3	1.490428516	0.0045	Cep85	0.82999805	0.0001
Slamf7	1.436890232	0.0026	D030056L22Rik	0.82242731	0.0008
Tespa1	1.41708856	0.0001	Pax1	0.806027649	0.0117
Itga3	1.407333133	0.0156	Adh4	0.799159123	0.0025
Cd160	1.352369287	0.0308	Unc13b	0.788993399	0.0415
Bdh2	1.261551864	0.0000	Arl6	0.777257241	0.0011
Hif1a	1.253909991	0.0002	Txnrd3	0.768740902	0.0001
Gls2	1.250897919	0.0323	Slc16a6	0.766421394	0.0002
Ssx2ip	1.248955297	0.0000	Lrmp	0.765402822	0.0227
Sema4f	1.236165115	0.0004	Rbbp7	0.762115907	0.0333
Sigirr	1.231406647	0.0049	Bcl2	0.761068908	0.0000
Dnph1	1.227720571	0.0006	Ptk2	0.758203054	0.0383
Gstt1	1.13772866	0.0130	Zdhhc13	0.755337823	0.0002
Tnfsf14	1.134561079	0.0252	Wisp1	0.75261012	0.0037
Lta	1.120098533	0.0007	Pgam1	0.752045434	0.0002
Impa2	1.119343245	0.0097	Zfp202	0.748903283	0.0019
Gstt3	1.113026745	0.0155	Crip2	0.74630009	0.0043
Gnai1	1.112370983	0.0010	Slc29a3	0.742670565	0.0165
Tnfsf11	1.077909679	0.0012	Tpi1	0.729284155	0.0263
Pafah1b3	1.056963661	0.0003	Tmem41a	0.726381025	0.0143
Egr4	1.047859531	0.0465	Utf1	0.720474045	0.0196
Spsb1	1.02004449	0.0245	1110038B12Rik	0.720236036	0.0193
Clec2i	1.015977728	0.0273	Plac8	0.719005765	0.0386
Tnfrsf26	1.002719996	0.0076	Sdf4	0.716346108	0.0022
Rhbdf1	0.987815584	0.0279	Tg	0.713552254	0.0018
Gspt2	0.984331923	0.0003	Ggt7	0.712584294	0.0054
Gramd1b	0.968992393	0.0070	Zfp280b	0.711268672	0.0156
Tcf7	0.960015545	0.0003	Ptprk	0.706691942	0.0349
			Hvcn1	0.705710168	0.0218
			Preli2	0.70017582	0.0097
			Pus7l	0.696389705	0.0079
			Tmem216	0.693784923	0.0080

<b>Cdon</b>	0.68891227	0.0061
<b>2310001H17Rik</b>	0.688070435	0.0187
<b>Pdzk1</b>	0.684307044	0.0049
<b>Xpot</b>	0.680222684	0.0269
<b>Zfp940</b>	0.678521027	0.0008
<b>Krt17</b>	0.662150809	0.0221
<b>Anp32a</b>	0.660326989	0.0016
<b>Trps1</b>	0.657515751	0.0166
<b>Sccpdh</b>	0.654549408	0.0020
<b>Ccdc64</b>	0.651771459	0.0231
<b>Tmed4</b>	0.644714636	0.0160
<b>Wrb</b>	0.644040647	0.0103
<b>Nudt5</b>	0.642985532	0.0240
<b>Ttc27</b>	0.638604467	0.0051
<b>Cd320</b>	0.631470764	0.0092
<b>Abca3</b>	0.619945219	0.0055
<b>Serpind1</b>	0.613884693	0.0446
<b>Rcan1</b>	0.612675005	0.0103
<b>Il11</b>	0.610745451	0.0029
<b>Tspan2</b>	0.609770854	0.0106
<b>Itpr1</b>	0.609407357	0.0281
<b>Tspan3</b>	0.608915137	0.0054
<b>Slc24a3</b>	0.608579103	0.0402
<b>Trpm6</b>	0.607082471	0.0040
<b>Acaca</b>	0.603891458	0.0056
<b>Hspd1</b>	0.600697468	0.0036
<b>Mid2</b>	0.598074879	0.0021
<b>0610037L13Rik</b>	0.595253542	0.0151
<b>Snhg5</b>	0.593638313	0.0003
<b>Fam69b</b>	0.590580045	0.0027
<b>Ybx3</b>	0.587527173	0.0010
<b>Als2</b>	0.585691642	0.0093
<b>Irf1</b>	-0.585076974	0.0016
<b>Parp14</b>	-0.587108183	0.0004
<b>Sh3bgrl3</b>	-0.589111206	0.0117
<b>Capg</b>	-0.590601888	0.0481
<b>Neur13</b>	-0.591404438	0.0049
<b>Sash3</b>	-0.593500551	0.0158
<b>Ubl3</b>	-0.593632561	0.0007
<b>Dctn6</b>	-0.59368767	0.0076
<b>Tnfrsf4</b>	-0.594253288	0.0031
<b>Ly6a</b>	-0.596764506	0.0085
<b>F2rl2</b>	-0.599186669	0.0070

<b>Rab4b</b>	-0.601522963	0.0003
<b>Coro1a</b>	-0.603454273	0.0150
<b>Fam177a</b>	-0.603726894	0.0407
<b>Map4k2</b>	-0.60448233	0.0004
<b>Stk38l</b>	-0.605170484	0.0032
<b>Tor4a</b>	-0.608702599	0.0117
<b>Cryba4</b>	-0.611502727	0.0117
<b>Oaz2</b>	-0.612393257	0.0008
<b>4632428N05Rik</b>	-0.613260283	0.0219
<b>Egr1</b>	-0.613370611	0.0498
<b>Grb7</b>	-0.615017239	0.0104
<b>Ppm1l</b>	-0.618120832	0.0153
<b>Jun</b>	-0.619222454	0.0347
<b>Zfp281</b>	-0.619981476	0.0203
<b>Fli1</b>	-0.621015115	0.0057
<b>Tspan14</b>	-0.621233385	0.0073
<b>Plekho2</b>	-0.624023499	0.0247
<b>Arrdc4</b>	-0.624216062	0.0399
<b>Ppp1r12a</b>	-0.624377812	0.0367
<b>Zmynd8</b>	-0.6256919	0.0107
<b>Armc7</b>	-0.628397526	0.0347
<b>Ikzf4</b>	-0.629169147	0.0113
<b>Samsn1</b>	-0.630887968	0.0101
<b>Apaf1</b>	-0.634243863	0.0217
<b>Slc9a3r1</b>	-0.635494307	0.0017
<b>Mif4gd</b>	-0.638467848	0.0183
<b>Snx20</b>	-0.641606582	0.0122
<b>Sorl1</b>	-0.641715352	0.0063
<b>Foxj2</b>	-0.643976935	0.0113
<b>Kmt2a</b>	-0.645931795	0.0080
<b>Cggbp1</b>	-0.646219223	0.0079
<b>Ddit3</b>	-0.646354393	0.0032
<b>Icos</b>	-0.647691685	0.0219
<b>Arhgap18</b>	-0.650046033	0.0292
<b>Agfg1</b>	-0.654665642	0.0076
<b>Ak7</b>	-0.656181329	0.0201
<b>Tbx21</b>	-0.656652127	0.0301
<b>Commd3</b>	-0.656725294	0.0094
<b>Cyth1</b>	-0.65780697	0.0079
<b>Eci2</b>	-0.658905414	0.0015
<b>3300005D01Rik</b>	-0.662142307	0.0339
<b>Vopp1</b>	-0.664491959	0.0003
<b>Gng12</b>	-0.665226369	0.0021

<b>Lst1</b>	-0.669555418	0.0136	<b>Lyrn5</b>	-0.753095049	0.0000
<b>Trex1</b>	-0.669653835	0.0068	<b>Jakmip1</b>	-0.75387727	0.0000
<b>Zfp263</b>	-0.671406486	0.0063	<b>Pglyrp1</b>	-0.762341864	0.0189
<b>Ppp1r3f</b>	-0.676308023	0.0107	<b>Irak3</b>	-0.763465674	0.0279
<b>Cd53</b>	-0.676955513	0.0111	<b>Aes</b>	-0.765956687	0.0002
<b>Klc3</b>	-0.678412845	0.0031	<b>Dtx1</b>	-0.766604237	0.0069
<b>Ccs</b>	-0.678767096	0.0492	<b>Rasal3</b>	-0.770531704	0.0004
<b>S100a10</b>	-0.680524775	0.0464	<b>Ebpl</b>	-0.772263856	0.0129
<b>Pigx</b>	-0.683971636	0.0362	<b>Hexa</b>	-0.773257869	0.0048
<b>Acsbg1</b>	-0.686581561	0.0385	<b>Stk17b</b>	-0.774665861	0.0080
<b>Irgm2</b>	-0.687411307	0.0020	<b>Gpr146</b>	-0.774873737	0.0004
<b>Folr4</b>	-0.688273953	0.0050	<b>Atf7ip</b>	-0.778440597	0.0259
<b>Lasp1</b>	-0.689524587	0.0079	<b>Nck2</b>	-0.779290082	0.0049
<b>Myo1g</b>	-0.694030235	0.0227	<b>Rab32</b>	-0.78262	0.0016
<b>Txnip</b>	-0.696763321	0.0074	<b>Mta3</b>	-0.789378396	0.0018
<b>Ehd1</b>	-0.699656526	0.0028	<b>Src</b>	-0.790023207	0.0074
<b>Cdkn1a</b>	-0.705926343	0.0189	<b>Jak1</b>	-0.79193387	0.0116
<b>Abi3</b>	-0.706682188	0.0053	<b>Pdgfb</b>	-0.797587855	0.0181
<b>Samd9l</b>	-0.708605026	0.0005	<b>2210408F21</b>		
<b>Smim14</b>	-0.711025506	0.0007	<b>Rik</b>	-0.798862313	0.0058
<b>Cd8b1</b>	-0.711690115	0.0088	<b>Lipa</b>	-0.800189619	0.0100
<b>Lrrc8c</b>	-0.713941043	0.0067	<b>Mob3a</b>	-0.802463619	0.0002
<b>Mknk2</b>	-0.71438017	0.0007	<b>Upp1</b>	-0.807019926	0.0039
<b>Plk2</b>	-0.716729559	0.0076	<b>Maf</b>	-0.810529808	0.0006
<b>Mpp1</b>	-0.717943712	0.0327	<b>Rgs10</b>	-0.818593834	0.0274
<b>Hcls1</b>	-0.718113944	0.0032	<b>Ppp1r18</b>	-0.819170258	0.0001
<b>Fam126a</b>	-0.721185924	0.0203	<b>Al467606</b>	-0.822235189	0.0027
<b>Hdac7</b>	-0.725636174	0.0077	<b>Ech1</b>	-0.82251202	0.0010
<b>Tecpr1</b>	-0.727864921	0.0010	<b>Gbp2b</b>	-0.823726097	0.0316
<b>Rab7l1</b>	-0.728352222	0.0019	<b>Ptms</b>	-0.826632887	0.0112
<b>Cyp4v3</b>	-0.728463569	0.0079	<b>Kansl1l</b>	-0.827342834	0.0011
<b>Cyb5</b>	-0.731900961	0.0012	<b>Inpp5d</b>	-0.831815406	0.0011
<b>Ifi47</b>	-0.735273585	0.0120	<b>Fam134b</b>	-0.831830112	0.0123
<b>Prkca</b>	-0.737917472	0.0146	<b>Apobec1</b>	-0.832189123	0.0175
<b>Ypel3</b>	-0.737989488	0.0101	<b>Dok2</b>	-0.834839722	0.0003
<b>Ccdc92</b>	-0.740171312	0.0035	<b>Anxa6</b>	-0.841781898	0.0015
<b>Picalm</b>	-0.740528917	0.0004	<b>Cxcl2</b>	-0.842540498	0.0070
<b>Rnf213</b>	-0.743504004	0.0038	<b>Dhrs1</b>	-0.843255117	0.0037
<b>Nuak2</b>	-0.744360011	0.0189	<b>Uba7</b>	-0.846420478	0.0006
<b>Rin3</b>	-0.746892211	0.0080	<b>Rac2</b>	-0.854198135	0.0019
<b>C78339</b>	-0.747465641	0.0007	<b>Npc2</b>	-0.875220256	0.0055
<b>Bmp7</b>	-0.747897474	0.0051	<b>Swap70</b>	-0.875251493	0.0360
<b>Agpat4</b>	-0.751347981	0.0002	<b>Mmp13</b>	-0.879650559	0.0005
			<b>Klf2</b>	-0.880763631	0.0289



<b>Ank</b>	<b>-0.882409732</b>	<b>0.0027</b>
<b>Stk32c</b>	-0.883017082	0.0014
<b>Abcb9</b>	-0.884132588	0.0022
<b>Gm4951</b>	-0.8863652	0.0082
<b>Slnf1</b>	-0.891874237	0.0149
<b>Sat1</b>	-0.898998323	0.0103
<b>F2r</b>	-0.900274643	0.0072
<b>Tdrd7</b>	-0.903459804	0.0002
<b>Oas1g</b>	-0.905979159	0.0106
<b>Gadd45a</b>	-0.90723354	0.0030
<b>Gbp3</b>	-0.908435957	0.0065
<b>Endod1</b>	-0.922761334	0.0014
<b>Xaf1</b>	-0.943697141	0.0070
<b>Hmha1</b>	-0.944461496	0.0001
<b>Rbms1</b>	-0.948557565	0.0000
<b>Igtp</b>	-0.949839755	0.0002
<b>Sema4a</b>	-0.970895275	0.0041
<b>S100a13</b>	-0.982292821	0.0148
<b>Spata13</b>	-0.988544718	0.0016
<b>Cdkn2b</b>	-0.992484895	0.0055
<b>Ky</b>	-0.995461824	0.0000
<b>Gbp5</b>	-1.002381393	0.0088
<b>N4bp1</b>	-1.005486756	0.0000
<b>Emc9</b>	-1.00722179	0.0016
<b>Itk</b>	-1.010389033	0.0104
<b>Gng2</b>	-1.015432571	0.0186
<b>Serpinb6a</b>	-1.016418438	0.0093
<b>Sgms1</b>	-1.019926255	0.0008
<b>Gimap6</b>	-1.020885862	0.0006
<b>Csrp2</b>	-1.028290796	0.0005
<b>Il6st</b>	-1.028351235	0.0092
<b>Ppp1r3b</b>	-1.048608337	0.0000
<b>Icam1</b>	-1.048891816	0.0003
<b>Pea15a</b>	-1.049359032	0.0006
<b>Hsd11b1</b>	-1.051909481	0.0032
<b>Marcks</b>	-1.054384773	0.0065
<b>Nkg7</b>	-1.054761587	0.0368
<b>Syp</b>	-1.064701299	0.0167
<b>Camk2n1</b>	-1.095658603	0.0098
<b>Sgk1</b>	-1.096984078	0.0034
<b>Ctla4</b>	-1.104960289	0.0006
<b>Bcl3</b>	-1.105714901	0.0059
<b>Selplg</b>	-1.108699562	0.0001

<b>Ifitm3</b>	-1.133460529	0.0180
<b>Tnfrsf18</b>	-1.161189574	0.0007
<b>Pdzk1ip1</b>	-1.167085364	0.0367
<b>Ecm1</b>	-1.170183991	0.0012
<b>Il13</b>	-1.174240918	0.0087
<b>Glipr1</b>	-1.174447465	0.0003
<b>Dgat1</b>	-1.177746651	0.0076
<b>Fam132a</b>	-1.181717716	0.0021
<b>Gna15</b>	-1.184325034	0.0058
<b>Lxn</b>	-1.191274969	0.0001
<b>Arhgap4</b>	-1.20463949	0.0000
<b>Ccl4</b>	-1.221322256	0.0005
<b>Gm4956</b>	-1.223012066	0.0007
<b>Myo1f</b>	-1.225138307	0.0081
<b>Gimap7</b>	-1.228687702	0.0103
<b>Ifngr1</b>	-1.254746189	0.0035
<b>Slc2a3</b>	-1.25896302	0.0016
<b>Arl4c</b>	-1.262381331	0.0103
<b>Trpv2</b>	-1.272370057	0.0013
<b>Zfp36</b>	-1.292528664	0.0001
<b>Ikzf2</b>	-1.334553701	0.0138
<b>Ltb4r1</b>	-1.455145237	0.0005
<b>Foxp1</b>	-1.472045464	0.0008
<b>Cd72</b>	-1.571580275	0.0177
<b>Isg20</b>	-1.665804876	0.0002
<b>Socs2</b>	-1.79608408	0.0002
<b>Glrx</b>	-1.844945755	0.0000
<b>Cytip</b>	-1.933855188	0.0013
<b>Snx9</b>	-1.972830927	0.0007
<b>Il10ra</b>	-2.099839132	0.0000
<b>Gpr83</b>	-2.211314476	0.0000
<b>Ccr5</b>	-2.250752091	0.0002
<b>Ncmip</b>	-2.804431998	0.0001

Gene	Up/Down_T effector	
	log2FC (KO_Teff/WT_Teff)	pvalue
Prss34	5.172263149	0.0314
Mcpt8	4.413352029	0.0164
Ccl9	4.04151651	0.0082
Il6	3.505771403	0.0221
Cpa3	3.232991333	0.0209
Cyp11a1	3.227220802	0.0155
<b>Lat2</b>	<b>3.10096442</b>	<b>0.0173</b>
Gja1	2.986859818	0.0348
Il1b	2.870422519	0.0455
H2-Eb1	2.768839733	0.0263
Fcer1a	2.766447424	0.0202
Aqp9	2.75662276	0.0199
Cd63	2.693807736	0.0256
Klre1	2.689236897	0.0240
Hs3st1	2.536952403	0.0217
Osr2	2.505617017	0.0058
Napsa	2.489581795	0.0143
Adora2b	2.474845611	0.0294
Klra18	2.43120066	0.0464
H2-Ab1	2.378837445	0.0171
Tgm1	2.369254697	0.0301
Pdzk1ip1	2.36191606	0.0063
H2-Aa	2.328800707	0.0074
Csf1	2.317876659	0.0153
Klra3	2.311397338	0.0462
Trf	2.068943646	0.0314
Inhba	2.047635797	0.0444
Cd83	2.014026276	0.0157
Scimp	2.000053962	0.0404
Cd74	1.843380308	0.0128
Klf5	1.747992377	0.0489
Itga2b	1.678158762	0.0343
Armxc2	1.598319056	0.0023
Cd200r3	1.50893154	0.0240
Tubb6	1.470263131	0.0359
Fndc3b	1.45960737	0.0049
Ccdc22	1.453768055	0.0311
Cd9	1.423679976	0.0189
Swap70	1.406612408	0.0072
Csf2rb2	1.374044556	0.0114
Tnfsf4	1.352674824	0.0009
Fam110c	1.347288324	0.0331
Car2	1.339165821	0.0246
Pcyt1a	1.321013247	0.0223
Cxcr4	1.320803523	0.0024
Ifitm1	1.317555602	0.0058
H2-Ca	1.295301791	0.0121

Gene	log2FC (KO_Teff/WT_Teff)	
		pvalue
<b>Tacstd2</b>	<b>1.222627115</b>	<b>0.0136</b>
Car13	1.179831358	0.0272
Abcd3	1.172626551	0.0177
Aqp3	1.138448259	0.0482
Cx3cl1	1.103867942	0.0001
Lrig1	1.102030796	0.0469
H2-DMb1	1.063444554	0.0456
Ppap2c	1.056348346	0.0257
Rap2a	1.035345158	0.0170
Gns	1.012801425	0.0106
Klrk1	1.010575951	0.0273
Slco2b1	0.998175655	0.0185
Cd81	0.990650833	0.0287
Nucb1	0.981372047	0.0233
Ttc7b	0.964754972	0.0338
Tax1bp1	0.959886663	0.0257
Orai3	0.953848719	0.0091
Plcg2	0.951444416	0.0121
Gpr183	0.922500427	0.0332
Gzmm	0.903082682	0.0126
Snx8	0.885686956	0.0253
Sav1	0.861381282	0.0057
Igfbp4	0.850449101	0.0275
Nt5dc2	0.847923369	0.0222
Fosl1	0.836776991	0.0231
Chpf	0.832768897	0.0109
Mkl1	0.832083144	0.0056
Prkd3	0.82856238	0.0255
Stx7	0.813740066	0.0376
Trio	0.805316734	0.0352
Cerk	0.795965962	0.0129
Myo6	0.7936571	0.0076
Ctsc	0.7792256	0.0244
Large	0.740962027	0.0071
Amd1	0.737331547	0.0002
Gaa	0.731173427	0.0220
Tcf4	0.73030842	0.0022
Tiam2	0.729669788	0.0245
Ccnd2	0.71645197	0.0414
Casz1	0.708629453	0.0157
Rps4y2	0.699184242	0.0137
Avpi1	0.698268597	0.0241
Wasf2	0.69211529	0.0339

<b>Mfge8</b>	<b>0.688784502</b>	<b>0.0130</b>	<b>St6galnac2</b>	<b>-0.764351549</b>	<b>0.0269</b>
<b>Cgrrf1</b>	0.675455508	0.0041	<b>Tmc6</b>	-0.767018294	0.0071
<b>Fam109a</b>	0.673705083	0.0054	<b>Pou2f2</b>	-0.799779423	0.0235
<b>Sirt3</b>	0.664131545	0.0363	<b>Ccno</b>	-0.805836987	0.0271
<b>Ftl1</b>	0.659238418	0.0157	<b>Mapre2</b>	-0.811385404	0.0170
<b>Zfp219</b>	0.658278875	0.0077	<b>Ccl20</b>	-0.831443811	0.0372
<b>Cd47</b>	0.658173809	0.0243	<b>Il17a</b>	-0.850382287	0.0042
<b>Golim4</b>	0.653352536	0.0041	<b>B4galnt4</b>	-0.874927182	0.0368
<b>Pgd</b>	0.651480541	0.0044	<b>Rftn1</b>	-0.902460468	0.0009
<b>Cryba4</b>	0.633866744	0.0390	<b>Il22</b>	-0.914070842	0.0160
<b>Prodh</b>	0.622760841	0.0146	<b>Rnf166</b>	-0.938472578	0.0163
<b>Cdkn1c</b>	0.621242845	0.0100	<b>Tmem194b</b>	-0.94503979	0.0015
<b>Avil</b>	0.61822728	0.0215	<b>Zc3h12d</b>	-0.950650273	0.0320
<b>Vkorc1</b>	0.616325834	0.0100	<b>Zfp862</b>	-1.009466739	0.0161
<b>Tmed1</b>	0.615861129	0.0270	<b>Adam19</b>	-1.057416873	0.0008
<b>Dgkd</b>	0.613382572	0.0020	<b>Ltb</b>	-1.121609677	0.0272
<b>2310044G1</b>			<b>Sytl1</b>	-1.136113676	0.0015
<b>7Rik</b>	0.611226058	0.0479	<b>Ubash3a</b>	-1.172598063	0.0471
<b>Ccl6</b>	0.609642631	0.0327	<b>Asb2</b>	-1.231304664	0.0020
<b>Tuba8</b>	0.604274365	0.0349	<b>Sit1</b>	-1.247730618	0.0038
<b>Plxnd1</b>	0.590704647	0.0299	<b>Rorc</b>	-1.336381098	0.0010
<b>Mgat4b</b>	0.58871331	0.0017	<b>1700012B07Ri</b>		
<b>Klk8</b>	-0.593556843	0.0365	<b>k</b>	-1.54432167	0.0044
<b>Card10</b>	-0.596561084	0.0205	<b>Snai3</b>	-1.618890182	0.0091
<b>Cd96</b>	-0.596998019	0.0303	<b>Gcg</b>	-2.065497725	0.0473
<b>Fam160a2</b>	-0.609895783	0.0111			
<b>Cd28</b>	-0.611667462	0.0049			
<b>Olf802</b>	-0.615662516	0.0376			
<b>Chchd2</b>	-0.619764359	0.0034			
<b>Slc12a7</b>	-0.624931273	0.0108			
<b>Ccng2</b>	-0.637040883	0.0051			
<b>Slc25a47</b>	-0.63708513	0.0011			
<b>Cd6</b>	-0.639403865	0.0132			
<b>Batf</b>	-0.639688622	0.0303			
<b>Prkcq</b>	-0.658938549	0.0422			
<b>Slc29a1</b>	-0.684874498	0.0050			
<b>Spns1</b>	-0.684997284	0.0338			
<b>Slc25a19</b>	-0.685921291	0.0039			
<b>Slamf1</b>	-0.717853123	0.0470			
<b>Amn</b>	-0.725268584	0.0095			
<b>Tiam1</b>	-0.731739745	0.0044			
<b>Il12rb1</b>	-0.738136652	0.0486			
<b>Ext1</b>	-0.743630571	0.0082			
<b>Bcl11b</b>	-0.75581781	0.0416			

Gene		
	log2FC (KO_pTreg/WT_pT reg)	pvalue
Lif	2.435714619	0.0007
Slc2a6	2.727399534	0.0000
Tgm2	1.313851509	0.0234
Prdm1	1.587528301	0.0001
Batf3	2.416833906	0.0007
Dennd3	0.766024008	0.0100
Synpo	1.55167614	0.0001
Lhfp12	1.743330727	0.0056
Pecam1	0.656640532	0.0259
Bcl6	1.796873568	0.0001
1700025G04Rik	1.553317849	0.0003
Maged2	1.720901061	0.0008
Vcl	0.721689183	0.0268
Flnb	0.980864799	0.0002
D930015E06Rik	0.800969652	0.0027
Tagap	1.094227684	0.0062
Tox	1.068661756	0.0069
Hspa2	0.737391271	0.0142
Anxa2	0.64288339	0.0074
Ly6g5b	-0.725726242	0.0004
Fam102a	-0.628043794	0.0145
Pkp3	-0.802461518	0.0013
Trib2	-0.652171265	0.0029
Grap2	-0.664435542	0.0003
Rasl11a	-0.93158291	0.0033
BC021614	-0.930663925	0.0040
Malt1	-0.893780483	0.0161
Lat	-0.665501591	0.0030
Cd5	-0.636784791	0.0003
Cpd	-0.903755402	0.0265
Stambpl1	-1.075625487	0.0009
Rab27a	-1.134068221	0.0003
Ckb	-1.130171493	0.0029
Notch1	-1.00169425	0.0028
A430093F15R ik	-1.199290105	0.0001
Tmem154	-1.245325106	0.0038
Il10	-5.199474885	0.0000