

## Supplementary Figure 1A

### Inflammation-Specific TLDA: CD4 Inflammation in Tissue

Gene Symbol	Assay ID
Ahr	Mm01291777_m1
Anxa4	Mm01183650_m1
Bcl-6	Mm00477633_m1
Ccr1	Mm01216147_m1
Ccr2	Mm00438270_m1
Ccr4	Mm00438271_m1
Ccr5	Mm04207879_m1
Ccr6	Mm01700300_g1
Ccr7	Mm01301785_m1
Ccr8	Mm01351703_m1
Ccr9	Mm02620030_s1
CD40L	Mm00441911_m1
CTLA4	Mm00486849_m1
Cxcr3	Mm00438259_m1
Cxcr4	Mm01292123_m1
Cxcr5	Mm00432086_m1
Cxcr6	Mm00472858_m1
Cxcr7	Mm00432610_m1
Ebi-3	Mm00469294_m1
Eomes	Mm01351985_m1
Fos	Mm00487425_m1
FoxP3	Mm00475166_g1
Furin	Mm00440646_m1
Gapdh	Mm99999915_g1
Gata3	Mm00484683_m1
Gfi1	Mm00515855_m1
Gzmb	Mm00442834_m1
havcr2	Mm00454540_m1
HPRT	Mm01318747_g1
ICOS	Mm00497600_m1
Ifnar1	Mm00439544_m1
Ifng	Mm01168134_m1
Ifngr1	Mm00599890_m1
Igf1r	Mm00802831_m1
Igf2r	Mm00439576_m1
Ikzf1	Mm01187882_m1
Ikzf2	Mm00496108_m1
Ikzf3	Mm01306721_m1
Ikzf4	Mm00558871_s1
IL10	Mm01288386_m1
IL10ra	Mm00434151_m1
IL12p35	Mm00434169_m1
IL12p40	Mm01288994_g1
IL12rb2	Mm00434200_m1
IL13	Mm00434204_m1
IL17	Mm00439619_m1
IL18r	Mm00515180_m1
IL1rl1	Mm01233982_m1

Gene Symbol	Assay ID
IL2	Mm00434255_g1
IL21	Mm00517640_m1
IL21r	Mm00600319_m1
IL22	Mm01226722_g1
IL23p19	Mm01160011_g1
IL23r	Mm00519942_m1
IL27p28	Mm00461164_m1
IL27r	Mm00497254_g1
IL2ra	Mm00434261_m1
IL2rb	Mm00434264_m1
IL4	Mm00445259_m1
IL4ra	Mm00439634_m1
IL5	Mm00439646_m1
IL6	Mm01210733_m1
IL6ra	Mm00439653_m1
IL7r	Mm00434295_m1
IL9	Mm00434304_m1
Irf4	Mm00516431_m1
Jun	Mm00495062_s1
Klf9	Mm00495172_m1
Lag3	Mm00493071_m1
Lgal	Mm00839408_g1
Maf	Mm02581355_s1
Pdcd1	Mm01285676_m1
Plxna4	Mm00558881_m1
Pparg	Mm01184322_m1
Prf1	Mm00812512_m1
Rn18s	Mm03928990_g1
RORc	Mm01261022_m1
Sema3A	Mm00436469_m1
Sema4A	Mm00443140_m1
Sema4D	Mm00443147_m1
Sema4F	Mm01181883_m1
Sema6D	Mm01334437_m1
Sema7A	Mm00441361_m1
Skp2	Mm00449925_m1
Socs2	Mm01247834_m1
Tbx21	Mm00450960_m1
Tgfb1	Mm00441729_g1
Tgfb2	Mm03024091_m1
Tgfb3	Mm03053837_s1
Timd2	Mm00506693_m1
Tnfr	Mm01309635_m1
Tnfrsf18	Mm00437136_m1
Tnfrsf1b	Mm00441889_m1
Tnfrsf4	Mm00442039_m1
Tnfrsf9	Mm00441899_m1
Tnfsf11	Mm00441908_m1

List of 96 genes: 93 genes of interest and 3 endogenous controls (GAPDH, HPRT and Rn18s) are included in a custom designed microfluidics card, TLDA (Taqman Low Density Array). Gene symbol (right) and Taqman assay ID for each gene is listed.

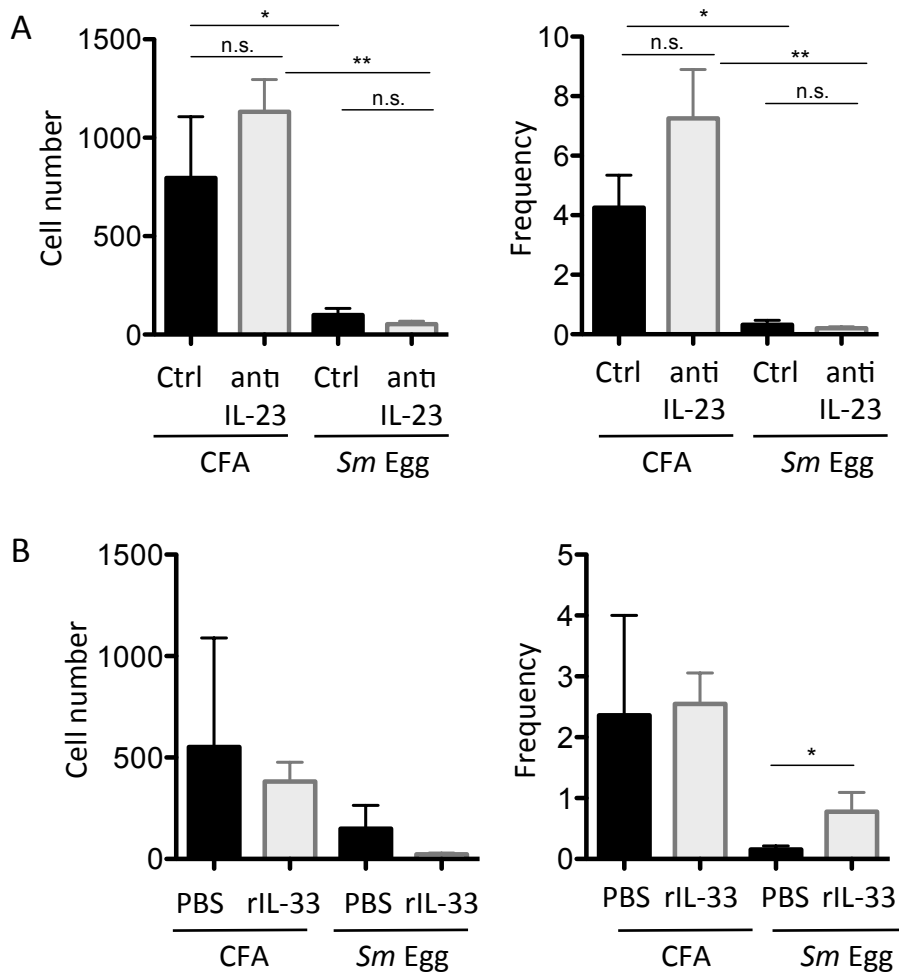
## Supplementary Figure 1A

### Treg-Specific TLDA: Treg Signature Genes

Gene Symbol	Assay ID
Adam19	Mm00477337_m1
Ahr	Mm01291777_m1
Arhgap20	Mm00615839_m1
Arhgef12	Mm00804321_m1
Bhlhb2	Mm00478593_m1
Capn3	Mm00482978_m1
Cd200	Mm00487740_m1
CD36	Mm01135198_m1
Cerk	Mm00461054_m1
Cish	Mm00515488_m1
Cpe	Mm00516341_m1
CTLA4	Mm00486849_m1
Dgat1	Mm00515643_m1
Dnahc12	Mm01210451_m1
Dst	Mm00467166_m1
Dusp4	Mm00723761_m1
Ecm1	Mm00514634_m1
Eef2k	Mm00432996_m1
Entpd1	Mm00515447_m1
Folr4	Mm00491664_m1
FoxP3	Mm00475166_g1
Frmd4b	Mm00520190_m1
Gapdh	Mm99999915_g1
Gata1	Mm01352636_m1
Gbp1	Mm00657086_m1
Gbp3	Mm00497606_m1
Gfi1	Mm00515855_m1
Gnaq	Mm00492381_m1
Gpr15	Mm01346276_g1
Gpr177	Mm00509695_m1
Gpr83	Mm00439103_m1
Hipk2	Mm00439329_m1
Hmgn3	Mm00518151_m1
HPRT	Mm01318747_g1
Igf1r	Mm00802831_m1
Igf2r	Mm00439576_m1
Ikzf2	Mm00496108_m1
Ikzf4	Mm00558871_s1
Il1r1	Mm01233982_m1
IL2ra	Mm00434261_m1
IL2rb	Mm00434264_m1
Itgae	Mm00434443_m1
Itgb8	Mm00623991_m1
Itih5	Mm00552678_m1
Klf9	Mm00495172_m1
Klrg1	Mm00516879_m1
Map3k8	Mm00432637_m1
Mdfig	Mm00612985_m1

Gene Symbol	Assay ID
Melk	Mm00487680_m1
Mxd1	Mm00487504_m1
Ndrp1	Mm00440447_m1
Nrp1	Mm00435379_m1
Nt5e	Mm00501910_m1
Pde3b	Mm01271639_m1
Pdim4	Mm00450823_m1
Penk1	Mm01212875_m1
Phlda1	Mm00456345_g1
Phlpp	Mm01295850_m1
Plagl1	Mm00494251_m1
Plscr1	Mm01228223_g1
Pmaip	Mm00451763_m1
Pou2af1	Mm00448326_m1
Ppm1l	Mm00618786_m1
Prg4	Mm01284582_m1
Prnp	Mm00448389_m1
Ptger2	Mm00436051_m1
Ptpn13	Mm00478426_m1
Ragef4	Mm00517216_m1
Rcn1	Mm00485644_m1
Rgs1	Mm00450170_m1
Rgs16	Mm00803317_m1
Rhoq	Mm00467435_m1
Rn18s	Mm03928990_g1
Rragd	Mm00546741_m1
Serpina3g	Mm02602542_m1
Serpib6b	Mm00488413_m1
Sgk1	Mm00441387_g1
Sh3brl2	Mm00552919_m1
Slc22a2	Mm00457295_m1
Slc22a5	Mm00441468_m1
Slc2a3	Mm03053806_s1
Socs2	Mm01247834_m1
Spry1	Mm01285700_m1
Stat3	Mm01219775_m1
Stx11	Mm01192495_m1
Swap70	Mm00486503_m1
Tiam1	Mm01170430_m1
Tmem158	Mm02342239_s1
Tmem64	Mm00841719_m1
Tnfrsf1b	Mm00441889_m1
Tnfrsf4	Mm00442039_m1
Tnfrsf9	Mm00441899_m1
Tnfsf11	Mm00441908_m1
Traf1	Mm00493827_m1
Usp27x	Mm02526762_s1
Zc3h12c	Mm01177353_m1

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**Supplementary Figure 2.** IL-23 and IL-33 manipulations fail to boost Treg accumulation in the *Sm Egg*-induced inflamed dermis. Sorted DO11.10+ Foxp3+ Tregs (Thy1.1+) and/or DO11.10+ Foxp3- Tconv (Thy1.1/1.2+) cells were transferred to WT Balb/c (Thy 1.2+) mice and immunized with OVA and adjuvant. A) Number and frequency (of CD4) of DO11.10 Foxp3+ Tregs in the inflamed ear, d7 post-immunization, with and without blocking antibody to IL-23 i.p. on days 4, 5, 6. B) Number and frequency (of CD4) of DO11.10 Foxp3+ Tregs in the inflamed ear, d7 post-immunization, with and without rIL-33 i.p. on days 4, 5, 6. Two independent experiments. Statistics by Mann Whitney.