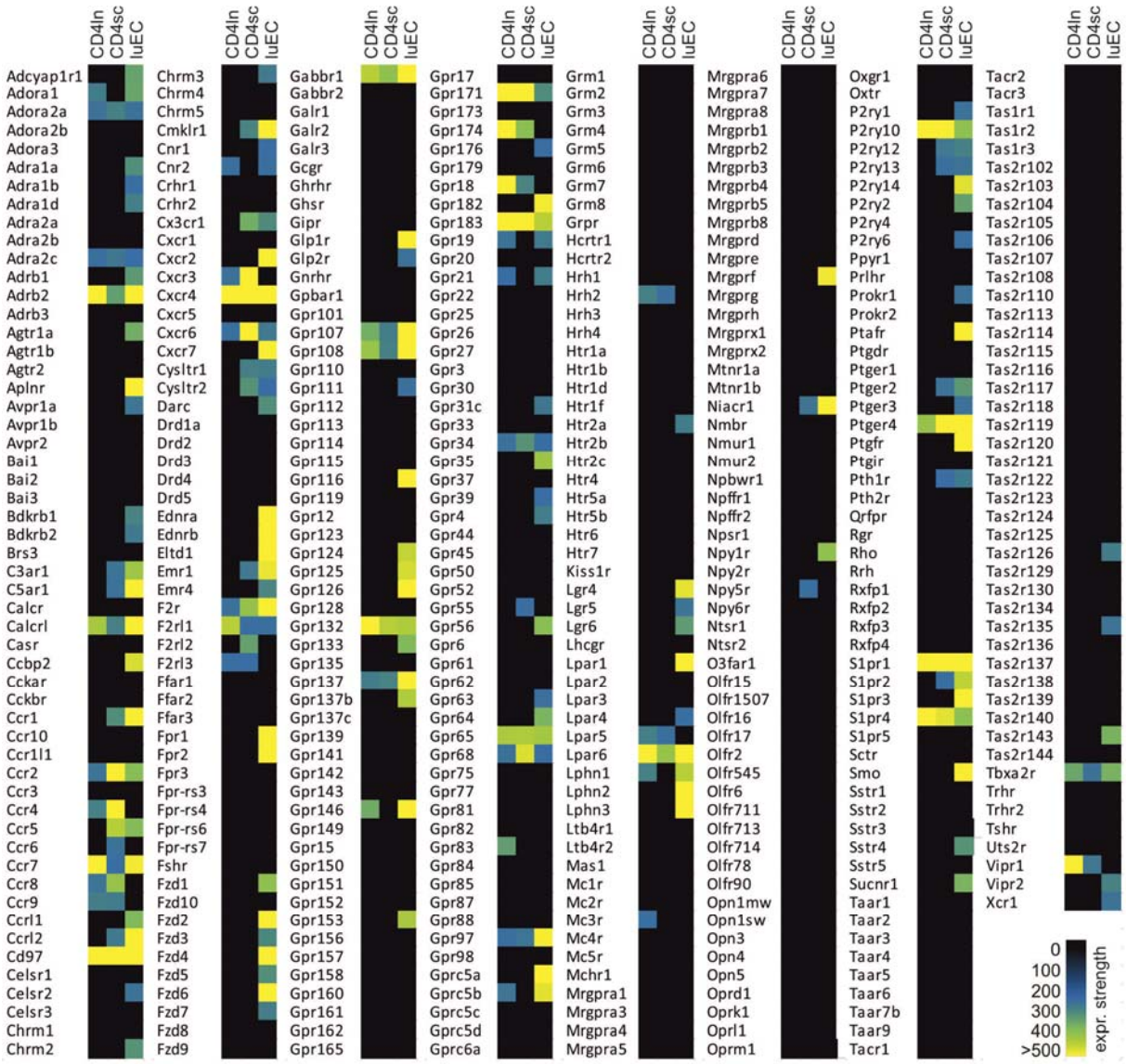
Supplemental Figures and Tables for Tischner et al., 2017



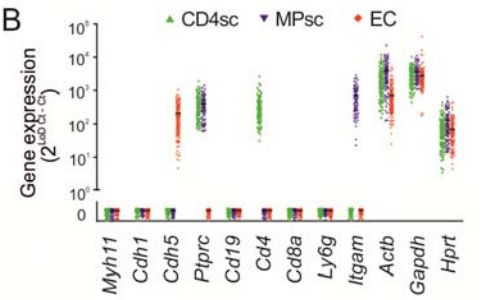
Tischner et al., Supplemental Figure 1

Supplemental Figure 1: GPCR expression profiles were determined using the NanoString nCounter System in 250 ng of pooled cell RNA obtained from freshly isolated CD4 T cells from naïve lymph nodes (CD4ln), spinal cord infiltrating CD4 T cells at peak EAE disease (CD4sc), and primary lung endothelial cells (luEC).

A

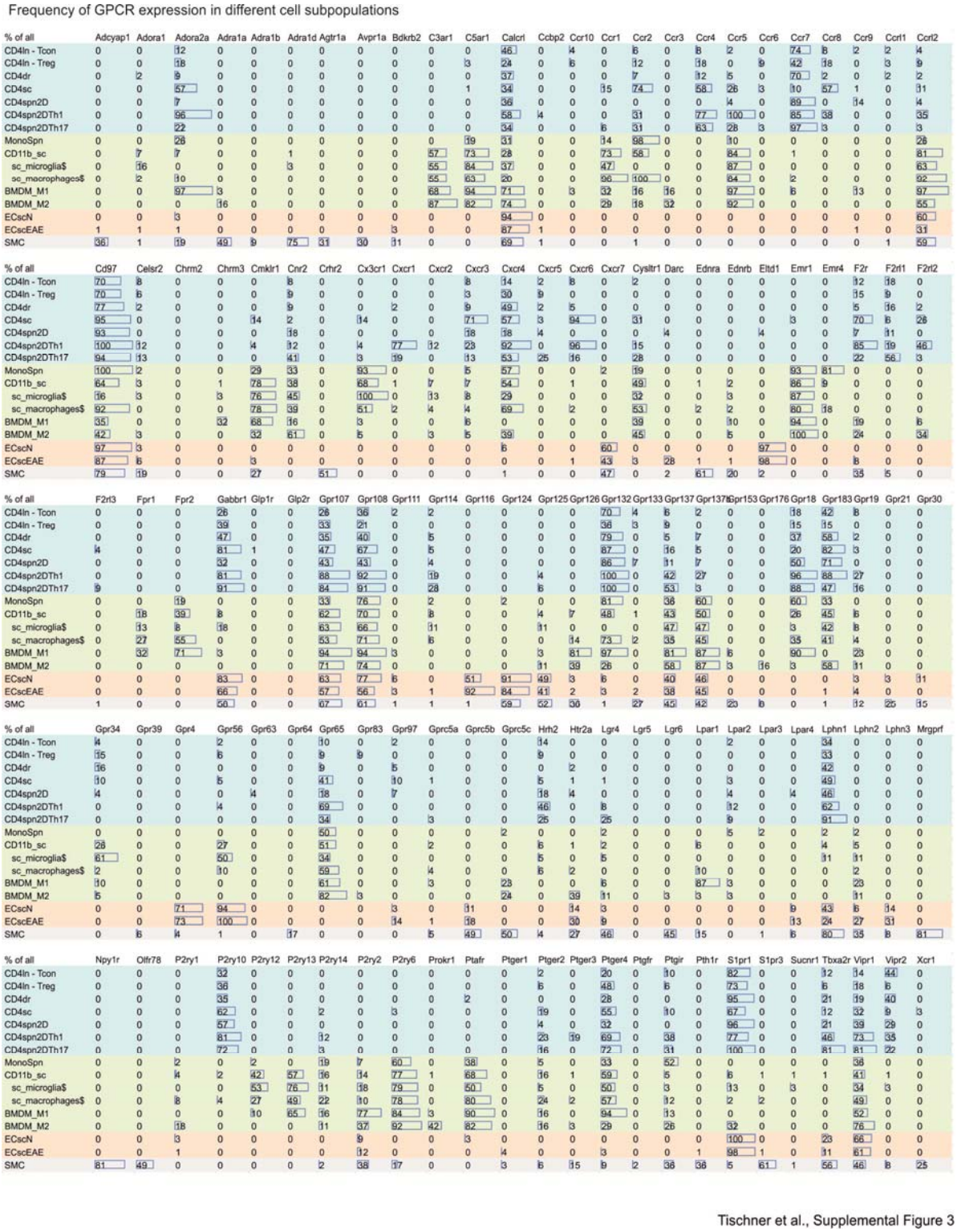
		Marker gene expression (% of cells)							
Cell type	Sorted for	None	Cd4 only	Cd8 only	Cd19 only	Itgam only	Cdh5 only	Cd4 & Itgam	Combi-nations
CD4ln	CD4	0,0	87,5	0,0	0,0	0,0	0,0	4,5	8,0
CD4dr	CD4	6,5	85,9	1,1	0,0	0,0	0,0	5,4	1,1
CD4sc	CD4	0,8	57,3	0,0	0,3	11,3	0,0	28,5	1,8
MPsc	CD11b/F4/80	0,6	0,0	0,0	0,0	93,8	0,0	0,0	5,6
EC	CD31/Cdh5	0,0	0,4	0,0	0,0	0,0	88,7	0,0	10,9

B



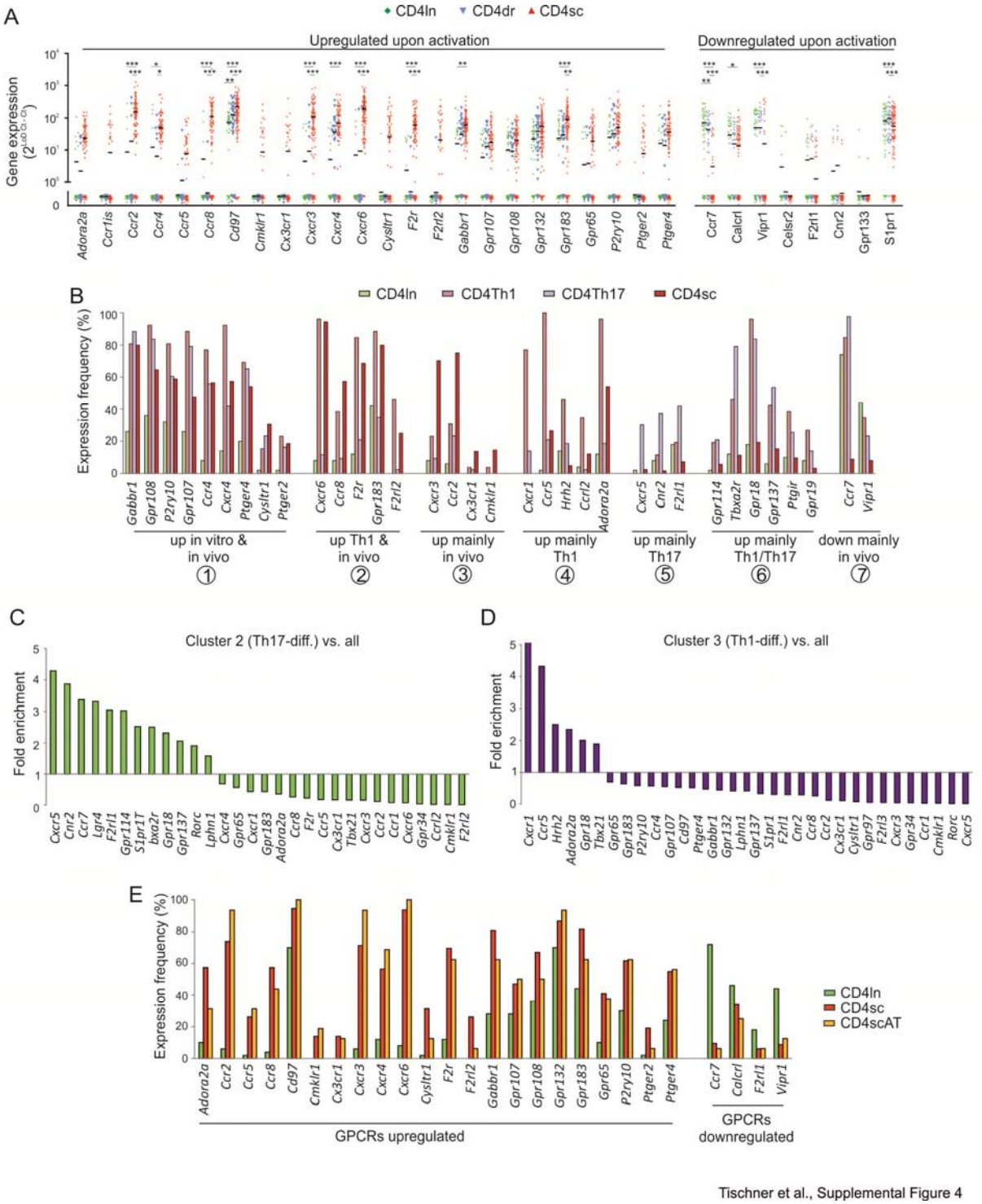
Tischner et al., Supplemental Figure 2

Supplemental Figure 2: Array design and quality controls. A, Sorted leukocytes or endothelial cells were subjected to single-cell expression analysis and re-evaluated based on the expression of various identity-defining genes. **B**, Expression of identity-defining and quality control genes after deletion of contaminating or reference gene-negative cells. Expression data are calculated as $2^{(\text{Limit of detection(LoD) Ct} - \text{sample Ct})}$; LoD C_t was set to 24.



Supplemental Figure 3: Overview over GPCR expression frequencies in different freshly isolated immune cell populations and spinal cord endothelial cells as determined by single cell RT-PCR. Abbreviations: CD4ln-Tcon/CD4ln-Treg, conventional (con) and regulatory (reg) CD4 T cells from lymph nodes (CD4ln) of naïve mice; CD4dr/CD4sc, CD4 T cells from draining lymph nodes (dr) or spinal cord (sc) at peak EAE disease; CD4spn2D/ CD4spn2DTh1/ CD4spn2DTh17, splenic CD4 T cells from 2D2 T cell receptor transgenic mice before (2D) and after *in vitro* differentiation towards Th1 (2DTh1) or Th17 (2DTh17); MonoSpn, splenic monocytes; CD11b_sc, spinal cord infiltrating CD11b-

positive cells; sc_microglia, $Ccr2^{neg}$,$Cx3cr1^{pos}$ microglia from spinal cord at peak disease; sc_macrophages, $CCr2^{pos}$;$Cx3cr1^{lo/neg}$ macrophages from spinal cord at peak disease; BMDM_M1/BMDM_M2, bone marrow-derived macrophages differentiated towards M1 or M2; ECscN and ECscEAE, spinal cord endothelial cells from naïve mice (N) and at peak EAE disease (EAE); SMC, smooth muscle cells from various vessel types (included as positive control to ascertain primer functionality). $^{\$}$, subgroups of CD11b_sc. Cell numbers per type (from top to bottom): 50, 33, 43, 114, 28, 26, 32, 42, 98, 38, 51, 29, 35, 35, 125, 152.



Supplemental Figure 4: Effect of *in vivo* and *in vitro* activation on CD4 T cells. A, GPCR expression strength in individual CD4ln, CD4dr, and CD4sc (Gene expression calculated as $2^{(\text{LoD Ct} - \text{sample Ct})}$. **B,** Comparison of GPCR expression frequencies in CD4 T cells in the naïve state (CD4ln) and after differentiation *in vitro* (CD4Th1, CD4Th17) or *in vivo* (CD4sc): For some receptors both Th1 and Th17 *in vitro* differentiation reproduced the changes observed in CD4sc (section 1), for other receptors only Th1, but not Th17 differentiation reproduced the *in vivo* findings (section 2). In yet other cases the expression patterns observed *in vivo* were not well reflected by *in vitro* stimulation (section 3 and 7) and various receptors showed high expression frequencies only *in vitro*, but not *in vivo* (sections 4-

6). **C, D**, (Refers to main Fig. 2D) Genes differentially expressed in cluster 2 cells (*in vitro* Th17-differentiated cells) (C) or cluster 3 cells (*in vitro* Th1-differentiated cells) (D) compared to all analyzed cells. **E**, Comparative analysis of GPCR frequencies in CD4 T cells from mice with active MOG_{35-55}-induced EAE (CD4sc) (50 cells from 12 mice) and adoptive transfer EAE (CD4scAT) (16 cells from 5 mice).*, $p<0.05$; **, $p<0.01$; ***, $p<0.001$ (2-way ANOVA).

A

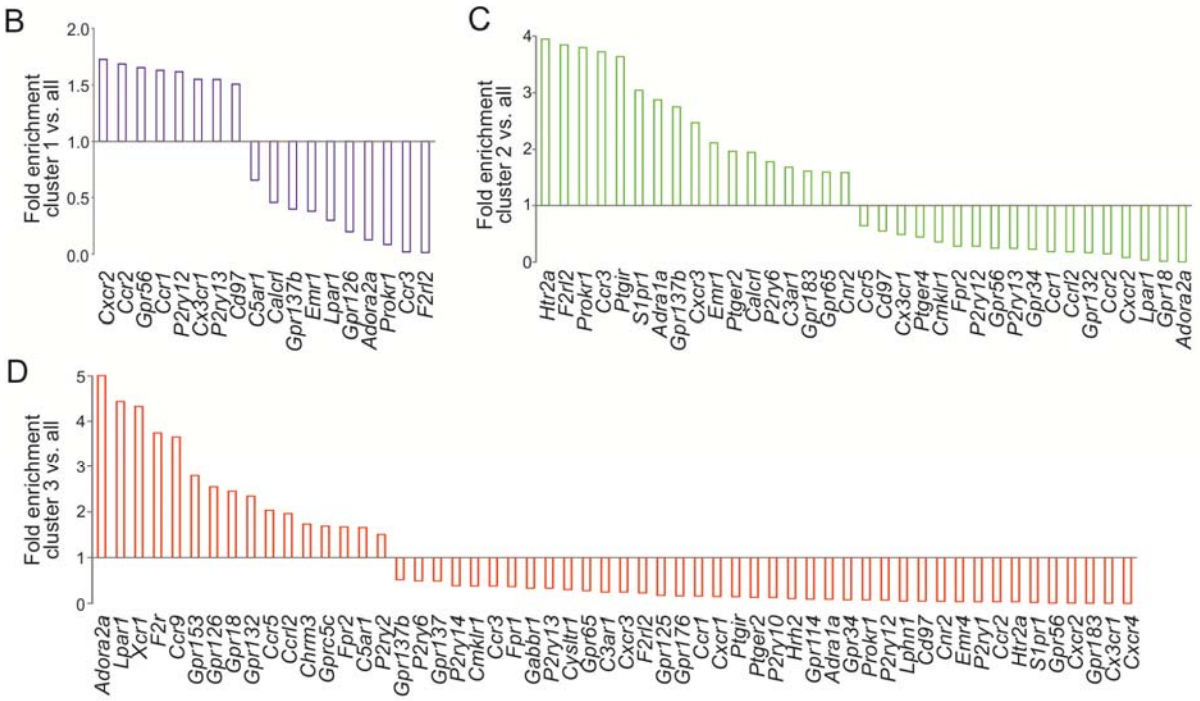
% of all	Adora1	Adora2a	Adra1a	C3ar1	C5ar1	Calcrl	Ccr1	Ccr2	Ccr3	Ccr5	Ccr7	Ccr9	Ccrl2	Cd97
MonoSpn	0	26	0	0	19	30	14	95	0	9	0	0	26	100
BMDM_M1	0	97	3	88	94	71	32	16	16	97	6	13	97	35
BMDM_M2	0	0	16	87	82	74	29	18	32	92	0	0	55	42
CD11b_sc	6	6	0	54	72	25	77	55	0	80	1	0	80	63

% of all	Chrm3	Cmklr1	Cnr2	Cx3cr1	Cxcr2	Cxcr3	Cxcr4	Cysltr1	Ednrb	Emr1	Emr4	F2r	F2rl2	Fpr1
MonoSpn	0	28	33	93	0	5	56	19	0	91	79	0	0	0
BMDM_M1	32	68	16	3	0	6	0	39	10	94	0	19	6	32
BMDM_M2	0	32	61	5	3	5	39	45	5	100	0	24	34	0
CD11b_sc	1	76	38	67	11	6	56	46	2	83	9	0	0	21

% of all	Fpr2	Gabbr1	Gpr107	Gpr108	Gpr114	Gpr125	Gpr126	Gpr132	Gpr137	Gpr137b	Gpr153	Gpr176	Gpr18	Gpr183
MonoSpn	19	0	33	74	2	0	0	81	35	58	0	0	58	33
BMDM_M1	71	3	94	94	0	3	81	97	81	87	6	0	90	0
BMDM_M2	0	0	71	74	0	11	39	26	58	87	3	16	3	58
CD11b_sc	41	7	57	67	7	4	6	43	40	45	0	0	22	42

% of all	Gpr19	Gpr34	Gpr56	Gpr65	Gprc5c	Hrh2	Htr2a	Lgr4	Lpar1	Lpar2	Lphn2	P2ry1	P2ry12	P2ry13
MonoSpn	0	0	0	49	2	0	0	2	0	5	2	2	2	0
BMDM_M1	23	10	0	61	23	0	0	6	87	3	23	0	10	65
BMDM_M2	11	5	0	82	24	0	39	11	3	3	11	18	0	0
CD11b_sc	5	22	23	49	0	5	1	2	5	0	4	4	37	55

% of all	P2ry14	P2ry2	P2ry6	Prokr1	Ptafr	Ptger2	Ptger4	Ptgir	S1pr1	Xcr1
MonoSpn	19	7	60	0	37	5	33	51	0	0
BMDM_M1	16	77	84	3	90	16	94	13	0	23
BMDM_M2	11	37	92	42	82	16	29	26	32	3
CD11b_sc	16	13	75	2	66	17	54	6	6	0



Tischner et al., Supplemental Figure 5

Supplemental Figure 5: Comparison of single-cell GPCR expression in spinal cord infiltrating CD11b-positive cells (CD11b_sc) and macrophages obtained by *in vitro* differentiation (BMDM_M1, BMDM_M2). A, Table showing the expression frequency of selected GPCRs in different myeloid cell types (only receptors expressed in at least 5% of any cell type are shown, for full data set please see Suppl. Fig. 2). **B-D,** (pertaining to main Fig. 6D), Genes differentially expressed in cluster 1 cells (CD11b_sc) (B), cluster 2 cells (BMDM_M2) (C), or cluster 3 cells (BMDM_M1) (D) compared to the total population.

Supplemental Table 1			
Gene name	**Primary Forward Primer**	**Primary Reverse Primer**	**Gene type**
Cd19	CCATCGAGAGGCACGTGAA	ACCACTGGGACTATCCATCCA	identity
Cd4	AAAGGGACACTGCATCAGGAA	CCCATCACCTCACAGGTCAA	identity
Cd8a	CAGCAAGGAAAACGAAGGCTAC	GCAGCACTGGCTTGGTAGTA	identity
Cdh1/E-Cad	ATTGCAAGTTCCTGCCATCC	CAGTAGGAGCAGCAGGATCA	identity
Cdh5	AACGAGGACAGCAACTTCAC	TGGCATGCTCCCGATTAAAC	identity
eGFP	AAGGACGACGGCAACTACAA	TTCAGCTCGATGCGGTTCA	identity
Foxp3	GACGAGACTTGGAAGACAGTCA	TGGGCATTGGGTTCTTGTCA	identity
Itgam	AAGCAGCTGAATGGGAGGAC	GCCCCATTGGTTTTGTGAAACA	identity
Ly6g	ACCTGAGACTTCCTGCAACA	AGTAGTGGGGCAGATGGGAA	identity
Myh11	CCCAAGCAGCTAAAGGACAA	AGGCACTTGCATTGTAGTCC	identity
Ptprc/CD45	TGATGAGGGCAGACTGTTCC	TCGGGCATCTTTGATGGGAA	identity
Acta2	GAGGCACCACTGAACCCTAA	TACATGGCGGGGACATTGAA	function
Actb	CCCTAAGGCCAACCGTGAAA	CAGCCTGGATGGCTACGTAC	function
Arg1	GGATTGGCAAGGTGATGGAA	CGACATCAAAGCTCAGGTGAA	function
CD25/Il2ra	TGCGTTGCTTAGGAAACTCC	CTGGTGTTCAAGTTGAGCTGTA	function
CD44	TTCCTTCGATGGACCGGTTA	TACTCGCCCTTCTTGCTGTA	function
Cd68	ATCCCCACCTGTCTCTCTCA	CTGTACTCGGGCTCTGATGTA	function
Csf2/GMCSF	AGTCGTCTCTAACGAGTTCTCC	CCGTAGACCCTGCTCGAATA	function
CSf2rb	CCTCACCTTGCTCCTGATCC	GGTTGGGGATCTTTTCCTTCCA	function
Dll4	GAGAAGGTGCCACTTCGGTTA	TAGAGTCCCTGGGAGAGCAAA	function
Edn1/ET-1	GACTTTCCAAGGAGCTCCAGAA	GGCTCTGCACTCCATTCTCA	function
Egr1	CCGAGCGAACAACCCTATG	AAGCGGCCAGTATAGGTGAT	function
Fos	ATGGGCTCTCCTGTCAACAC	GCTGTCACCGTGGGGATAAA	function
Gapdh	AGACGGCCGCATCTTCTT	TTCACACCGACCTTCACCAT	function
H2-Ab1	CGGTGTGCAGACACAACTAC	GTCCTGGACAGGGAGATGAC	function
Hey2	GTGGGGAGCGAGAACAATTAC	TGTCGGTGAATTGGACCTCA	function
Hif1a	TCGACACAGCCTCGATATGAA	TTCCGGCTCATAACCCATCA	function
Hprt	CAGTACAGCCCCAAAATGGTTA	AGTCTGGCCTGTATCCAACA	function
Icam1	AGGGCTGGCATTGTTCTCTA	TGTCGAGCTTTGGGATGGTA	function
Ifng	GGCACAGTCATTGAAAGCCTA	GCCAGTTCCTCCAGATATCCA	function
Il10	AAAGGACCAGCTGGACAACA	TAAGGCTTGGCAACCCAAGTA	function
Il17a	CAGACTACCTCAACCGTTCCA	CACTGAGCTTCCCAGATCACA	function
Il1b	CTCTCCACCTCAATGGACAGAA	TTGTCGTTGCTTGGTTCTCC	function
Il2	CGGCATGTTCTGGATTTGAC	CAGTTGCTGACTCATCATCGAA	function
Il6	CGATGATGCACTTGCAGAAA	ACTCCAGAAGACCAGAGGAA	function
Itgax	AAGGCAGCTAAGAGGGTACAC	TCCACTTTGGGTGGTGAACA	function
Kdr	ATTTCACCTGGCACTCTCCA	TCCCAGGAAAGGGTTTCACA	function
Klf2	CTAAAGGCGCATCTGCGTAC	TTCCAGCCGCATCCTTCC	function
Mki67	GAGACATACCTGAGCCCATCA	GCTTTGCTGCATTCCGAGTA	function
Nos2	GAGGAGCAGGTGGAAGACTA	GGAAAAGACTGCACCGAAGATA	function
Pdgfb	CGGCCTGTGACTAGAAGTCC	TCACCGTCCGAATGGTCAC	function
Pecam1	AGAGCCAGCAGTATGAGGAC	GCAATGAGCCCTTTCTTCCA	function
Ptgs2	CTTCTCCCTGAAGCCGTACA	TGTCACTGTAGAGGGCTTTCAA	function
Rorc/RORγt	TGGAGCTCTGCCAGAATGAC	GGCCCTGCACATTCTGACTA	function
Sele	AAAGACTCGGGCATGTGGAA	CTGCAGGATGCATTGGTACAC	function
Smtn	ACCGACGCCAGAACTTTGAA	CGCACCATGTCCTCTGTATCC	function
Tbx21/Tbet	CAAGTTCAACCAGCACCAGAC	CCACGGTGAAGGACAGGAA	function
TGFb1	GCTGCGCTTGCAGAGATTAA	GTAACGCCAGGAATTGTTGCTA	function
TNFa	GGGTGATCGGTCCCCAAA	TGAGGGTCTGGGCCATAGAA	function
Vcam1	CCCAAACAGAGGCAGAGTGTA	TGACCCAGATGGTGGTTTCC	function
Adcyap1r1	GAACGTCAGCAAGAGGGAAA	AGTAGAGTACAGCCACCACAA	GPCR
Adora1	GTACCTCCGAGTCAAGATCCC	AAACATGGGTGTCAGGCCTA	GPCR
Adora2a	TACATCGCCATCCGAATTCCA	GAATGACAGCACCCAGCAAA	GPCR
Adra1a	GAGAAGAAAGCCGCCAAGAC	GTGGCTTGAAATTCGGGAAGAA	GPCR
Adra1b	ATGTTGGCTCCCCTTCTTCA	TAGCCCAGCCAGAACACTAC	GPCR
Adra1d	TTCGTCCTGTGCTGGTTCC	GACGCCCTCTGATGGTTTCA	GPCR
Agtr1a	TAACTCACAGCAACCCTCCA	TCTGGGTTGAGTTGGTCTCA	GPCR

Avpr1a	TGTGGTCAGTCTGGGATACC	AGCTGTTCAAGGAAGCCAGTA	GPCR
Bdkrb2	AAATGCCCTGCTCCTGGAA	CTTGTGTGGTGACGTTGAACA	GPCR
C3ar1	ACTCGTCCAATGCACTTCAC	TGTCAGCATCGAAAGACTCCA	GPCR
C5ar1	TCGCTGGTTACCACAGAACC	AATGCCATCCGCAGGTATGTTA	GPCR
Calcrl	ATGCAGGACCCCATTCAACA	CAACGTCATTCCAGCATAGCC	GPCR
Ccbp2/Ackr2	GAGACCAGATCCTGCAAGCA	AGCTGCTGTTCTCGGAACC	GPCR
Ccr1	CCTCAAAGGCCCAGAAACAA	CTCCATCCTTTGCTGAGGAAC	GPCR
Ccr10	TAGCCAGAGATGGGGACCAA	CGAATAGGCCTCCTCATCGTAC	GPCR
Ccr2	TGCCATCATAAAGGAGCCATA	TAGCACATGTGGTGAATCCA	GPCR
Ccr3	CTGGACTCATAAAGGACTTAGCA	GTGGTGCCCACTCATATTCA	GPCR
Ccr4	GACTGTCCTCAGGATCACTTTCA	CCTGGGTGGTGTCTGTGAC	GPCR
Ccr5	GGAGGTGAGACATCCGTTCC	GGTCGGAACTGACCCTTGAAA	GPCR
Ccr6	TGGTTCGCCACTCTAATCAGT	GCAGTTCAACCACACTCTCACT	GPCR
Ccr7	GTGGTGGCTCTCCTTGTCA	GGTATTCTCGCCGATGTAGTCA	GPCR
Ccr8	AGTGGGCAGCTCTGAAACC	TTGGGCTCCATCGTGTAATCC	GPCR
Ccr9	CACCATGATGCCCACAGAAC	CTGTGGAAGCAGTGGAGTCATA	GPCR
Ccrl1	GGGAGATTCAAGATGGCTACCC	GTTCCAGTCTGGCTCCCAAA	GPCR
Ccrl2	ATCAAGCAACCTGCCTCAAAC	GGGCCACTGTGTAGTTATCCA	GPCR
Cd97	TGACCAGCTTTGCCATCCTA	CCCACCTTGGTGATCAATTCC	GPCR
Celsr2	AGCAATGACTGGGACAGCTA	TGGGTTCAGGTCACACACA	GPCR
Chrm2	CCGGCACTAGGGTGAAGAA	CACAGCTCGGAGTCCTCA	GPCR
Chrm3	AGTGACCAAGCACGTGACA	AGGAAGAACACACCAACTGGTTA	GPCR
Cmklr1	GTAACAGACCAGCCAAGGAC	AGTCGTTGTAAGCGTCGTAC	GPCR
Cnr2	AGGACAAGGCTCCACAAGAC	GATGGGCTTTGGCTTCTTCTAC	GPCR
Crhr2	GTGGACACTTTTGGAGCAGTAC	TCCAAGGTCGTGTTGCAGTA	GPCR
Cx3cr1	TCCTGCAGAAGTTCCCTTCC	GCCTCAGCAGAATCGTCATAC	GPCR
Cxcr1	CCTCCCGCACACAAGGAA	GCAGCATTCCCGTGATATTTCC	GPCR
Cxcr2	GCCACTCTGCTCACAAACA	AGGGCATGCCAGAGCTATAA	GPCR
Cxcr3	ACCAGCCAAGCCATGTACC	GGGAGAGGTGCTGTTTTCCA	GPCR
Cxcr4	GGTAACCACCACGGCTGTA	CAGGGTTCCTTGTTGGAGTCA	GPCR
Cxcr5	GGACATGGGCTCCATCACATA	TCCCTCGACTGTAGAGCAGAA	GPCR
Cxcr6	TGAGCACACTTCACTCTGGAA	ACTCTTGATGCCCATCATCCA	GPCR
Cxcr7	ACAAACTGCTCAGCACTGAA	GTCTTGAGGAGAGCGACCAA	GPCR
Cysltr1	GCTTCAGGGAGCAAAAGGAC	GTGGCCACTGTTCTTATGTTGTA	GPCR
Darc	GCCATGGGGAACTGTCTGTA	AACGAATAATTCCAGCTGTCGAAA	GPCR
Ednra	CATAGGACCTGCATGCTCAAC	AAAGAGCCACCAGTCCTTCA	GPCR
Ednrb	CCCTTTCAGAAAACAGCCTTCA	GCGGCAAGCAGAAGTAGAAA	GPCR
Eltd1	AGGACCAGCGTGTCTAATCA	CAGCAGTGTGGCGGAAAA	GPCR
Emr1	ACAGCTGTACCTGTCAACCA	ACGTCTCGAGTCACACATTCA	GPCR
Emr4	TCTGCAATAGCTGGCCACAA	GCTCCAGATGAATCCTCGATGAA	GPCR
F2r	GCGGTCCCTTGCTGTCTT	TCACCGTAGCATCTGTCCTCT	GPCR
F2rl1	GGCTGCTGGGAGGTATCAC	GTGATTGGAGGCTGGGTTTCTA	GPCR
F2rl2	CCGGGTCTCAGGACATCAA	GGCTTTGCTGAGTTGTCTGAA	GPCR
F2rl3	TGATGTAGAGAGTACCAGGGGAA	TCACTGTCGTTGGCACAGAA	GPCR
Fpr1	TCTGTCCAGAGCTGTTGGAA	GGTTCACTGCAGACTTGTTCA	GPCR
Fpr2	TACACCACAGGAACCGAAGA	TCAGATGGATGGAGTAGTTGGA	GPCR
Gabbr1	AGATCCAGCTGTGCCTGTTAAA	CGGGCTTCGGTCTCATAGAAA	GPCR
Glp1r	AGGAACCCTACGCTTCATCAA	CAGTACAGGATAGCCACCATCA	GPCR
Glp2r	GCCAACAGTGCTTCCTGAAA	GGAATAACAAACAGCATGGGGAA	GPCR
Gper1/Gpr30	CAGCAGATGGCCTGGTAAC	TCCAGATCGCTGCTCTGTTA	GPCR
Gpr107	GTCTCTCTCGTTGGTGTTCCA	TACAACAGCCCAGCCTTCAA	GPCR
Gpr108	TCCACAACTGTCACAACTCC	TGGATTCTTCTCCCGGATCA	GPCR
Gpr111	GCAGCTCTTACACAACATCTCAA	TGGTTAGCCATGGCACTGTA	GPCR
Gpr114	GGAAAATGGCACAGGCTTCC	CCATGACCAGGATGCTGTGTA	GPCR
Gpr116	AGCCAGAGGCAGTAAGAACA	AGAAATTGGGTCCCGGGTTA	GPCR
Gpr124	TCACGCTCACCAACTACCAA	ATCCAGAGCAGTGACGACAA	GPCR
Gpr125	TGGGAGGAATAACCCAGACC	ACCGTGGCAAGGGTAGAATA	GPCR
Gpr126	TGTGAAGTCGACGTGAACCA	AAGGTGGCTGGCCAACTAAA	GPCR
Gpr132	TGCCCTGTGCTGCCTCA	CCCTTGTGAAGGTGGCTCTG	GPCR
Gpr133	TCCGCTTGCCCAATAAATCC	ACCTCACCCACCGTTCTTAA	GPCR
Gpr137	GCTCCTGGGAGCATAGCC	TCCGATGGCACCATACCAAC	GPCR
Gpr137b	ATGTCCCTGGCCAACATCTA	CAAGATGACGGTGACACCAA	GPCR

Gpr153	GCCAACGACGAAGATTCTGAC	AAGAGAGCGCTCCAATACCA	GPCR
Gpr176	CGTGCAGGTCGTCATCTTCA	GTGCGGCAAGTTGACCATAAC	GPCR
Gpr18	TCAGACAGCCTTTGACAGACA	CTCAGGGTGGCCATCTTACA	GPCR
Gpr183	AAACACGGACTGCCACAAC	TTGCCAGTGGGGTAGTGAAA	GPCR
Gpr19	GGAGCCTGACTCTGAAATCCA	CAGCAGGGTGGCAGTCA	GPCR
Gpr21	GCATTGCAAGGCTTTCGGTTA	AGCAGGAGTTGTAATGAGTCTCC	GPCR
Gpr34	AGCTGACACAACCTGGTCTA	ACTTCAGAAGCTGCAGGAAC	GPCR
Gpr39	CGGACAGCAAGAAGACAGAC	ATCTGATTGGGCATCCAACAC	GPCR
Gpr4	GTCGGGACCAAGTCAGAGAC	CAGAGTTGATCCTGGTGGAGAC	GPCR
Gpr56	TCCAGCTTGTCATCCTCTACC	CATGGACCAGTACCACAGGAA	GPCR
Gpr63	TGTTGTGGGCTATAGCAGGAA	ACACAGCTCCATCTTCCACAA	GPCR
Gpr64	GTGACAGTCGCACTGAAACA	TTCTGCCCAAGTCCCAGAATA	GPCR
Gpr65	CAGATTTGCCAGCCTCCTCA	CGCCGTTTGGCATTCTTTCA	GPCR
Gpr83	TGGCGGACATCATGATCACA	CAAACACCCATGTGCTGTTCA	GPCR
Gpr97	TCTAGACATTGGTGCAGGGAA	CCACCATGCGGTTGTTCAA	GPCR
Gprc5a	GGGACACACTCTATGCACCTTA	GCCCTCGGGATAGAGAAATCC	GPCR
Gprc5b	CGGGCCTACATGGAGAACAA	AGATCTTTGCTCCAAGCTTCCA	GPCR
Gprc5c	TGCTGACCAGCGTGTACC	ATGACGTCGTATGCACCTTCA	GPCR
Hrh2	GTCCTAAGCGACCCGGTAC	TGGCTACTCTTTCTGGGGTCATA	GPCR
Htr2a	GCTGCTGGGTTTCCTTGTCA	ACAGAGCTTGCTGGGCAAA	GPCR
Lgr4	CTCAGGCTATTAAAGCCCTTCC	ATGCTCCATCCGGGATAACA	GPCR
Lgr5	CTCCAACCTCAGCGTCTTCA	ATGTAGGAGACTGGCGGGTA	GPCR
Lgr6	TATCCGCCACATCCCTGAC	CATGCTGGATGCGGTTGTTA	GPCR
Lpar1	AGTTCTGGACCCAGGAGGAA	CCGGAGTCCAGCAGACAATAA	GPCR
Lpar2	GGGTCTCAGTCCTGCTTCAA	AAGCCGATGGTCTCGTTGTA	GPCR
Lpar3	GAGGGCTCCCATGAAGCTAA	GCAGCAGAACCACCAGAC	GPCR
Lpar4	AGTGCGAGTTGCCAGTTTAC	CAGACGATCAGAGAGTTCCTCA	GPCR
Lphn1	TCTCCGCCAACACCATCAA	AAGAGGCCCAGGTTGTTGTA	GPCR
Lphn2	GAAGACATGCAGGGCTTACC	TCCAGGATTCCAAAGCCTCA	GPCR
Lphn3	TCGCCTTGACACCTACTTCA	GCAATCCCAAGGAAGATGACA	GPCR
Mrgprf	AGATGGCCGGAAACTGTTCA	TCCCGAGCCTCGCTCATA	GPCR
Npy1r	TTCGGCCCACTCTGCTTTATA	GTCCCGGATCTTGTCCATCA	GPCR
Olfr78	CCTGCTGCTCTCCTTGAGTA	GGAACTCATCGTTGACACCAA	GPCR
P2ry1	GTTTGTGAAGGCACGAGATCC	CACACACTGGTCTTTTGGTCAA	GPCR
P2ry10	GCTTGCTAAAGGGGCTTTCTA	CTGTTGCTGCCCATCTTGAA	GPCR
P2ry12	CTTGATGTGGGCGTACCCTA	GTTCCCAAAGCCCTCTGTGATA	GPCR
P2ry13	ACAGCTGAGTCTCTTCCAAAAC	CACCGCTCAGACTTGTTGAA	GPCR
P2ry14	ACACTGATGCCTGGGCTAC	GGCAAGCTTCGTCAACAGAA	GPCR
P2ry2	GAGCATCCTCACCACCTCAA	GGTGCTATTCCAGGGTTCCA	GPCR
P2ry6	CCAAATCTGGCACTTCCTCCTA	CTGCCTGTCAGCCTTTCCTA	GPCR
Prokr1	TCAGAAGACAGAGGTGCTCCTA	GGACCCGGTATCTGAGTTCC	GPCR
Ptafr	AATTGCCAGGCCACAACAC	TGGTCATGGAGCGCTGAATA	GPCR
Ptger1	CATGGGGACCCTGCATCC	CATCCGCTAGGCTCAGGTTAA	GPCR
Ptger2	TGACCATCACCTTCGCCATA	TCGGAGGTCCCACTTTTCC	GPCR
Ptger3	CATCCAGCTCATGGGGATCA	GCTCAACCGACATCTGATTGAA	GPCR
Ptger4	GTGCTCATCTGCTCCATTCC	CAATCCTGATGGCCTGCAAA	GPCR
Ptgfr	CTCCGGACACAACCACTCA	AAAAGCTGTCCCCTCAAGTCA	GPCR
Ptgir	ATTCTGCTGGCCCTCATGAC	GGCGATGGCCTGAGTGAA	GPCR
Pth1r	TGGGCACAAGAAGTGGATCA	AGCACCCGGATGATGTTGATA	GPCR
S1pr1	CGGTGTAGACCCAGAGTCC	GAGAGGCCTCCGAGAAACA	GPCR
S1pr3	GCCCCTAGACGGGAGTCTTA	ACTGCGGGAAGAGTGTTGAAA	GPCR
Sucnr1	AGCTCCTGGCAGAGTTTTCT	TCGATTGCATAAAATGCAGAGAGG	GPCR
Tbxa2r	TTCAGCTCGTGGGCATCA	CAGGTGGTGTCTGCAACAAA	GPCR
Vipr1	TGGACGATTGTCAGGATCCA	ATGGGGCCCTTTATGATCCA	GPCR
Vipr2	GCCTGGTGGTAGCAGTTCTATA	GCCTCGCCATCTTCTTTTCA	GPCR
Xcr1	GAAACCCTGACATGGACTCA	AAAGGCTGTAGAGGACTCCA	GPCR

Supplemental Table 1: Primer sequences for the detection of murine genes by single-cell RT-PCR.

Supplemental Table 2			
gene name	**Primary Forward Primer**	**Primary Reverse Primer**	**gene type**
GAPDH	GAACGGGAAGCTTGTCATCAA	ATCGCCCCACTTGATTTTGG	function
ICAM1	CCCCTACCAGCTCCAGACC	TGCGTGTCCACCTCTAGGAC	function
PDGF	AGCTTGGCTCGTGGAAGAA	TCTTGCACTCGGCGATCA	function
SELE	AGTGCACATCTCAGGGACAA	GAACTGCCAGGCTTGAACA	function
VCAM1	CAGGCTGGAAGAAGCAGAAA	CACTCTCAGAAGGAAAAGCTGTA	function
ADORA2A	TGACCGCTACATTGCCATCC	TGGCAATGATGCCCTTAGCC	GPCR
CCR2	GCTGAGAAGCCTGACATACCA	GGGAAATGCGTCCTTGTTCAA	GPCR
CCR4	CCTGGCATTGCCTCACAGA	GCTCCTCAAGGCAGGTCTG	GPCR
CCR5	TGAGACATCCGTTCCCCTACA	TGGCAGGGCTCCGATGTATA	GPCR
CCR7	CAGCCTTCCTGTGTGGTTTTAC	GTCCGTGACCTCATCTTGACA	GPCR
CCR8	GCAACACTGAAACCTCCAGAAC	ACTGTTGTCACACTGAGGTCAA	GPCR
CCR10	GGACGGAGGCCACAGA	AGTGGCTCAGCCGAGTAT	GPCR
CD97	GGGCAGAGACTCCAAGACAA	AGGAGCTTCCATCAGTTCATCC	GPCR
CXCR3	CAACCACAAGCACCAAAGCA	AACCTCGGCGTCATTTAGCA	GPCR
CXCR4	GGAGAACCAGCGGTTACCA	CAGGGTTCCTTCATGGAGTCA	GPCR
CXCR5	TACCCGCTAACGCTGGAAA	CACCAGGGAGGTGTCGTTATA	GPCR
CXCR7	CAGTTGTTGCAAAGTGCTCAG	CGGGCAATCAAATGACCT	GPCR
DARC	TGATGGCCCTCATTAGTCCT	TTCTCAGTTGAGGGGGAGAG	GPCR
F2R	CGCCTGCTTCAGTCTGTG	GGTGGCATTTGTTGCTTTTGA	GPCR
GABBR1	CAATACCCGCAGCATTTCCAA	GTCTCCTCAGGGTGTCTTTTCA	GPCR
GPR65	CAACAAACACATCACCGGAAG	AGGCTTTGTTTGCACAGAGA	GPCR
GPR107	CAAGTCTCTTTCCTTGGTGTTCC	AACAGCCCAGCCTTCGATA	GPCR
GPR108	CAGTTTCCTGGTCCTGTTCC	AACAACGTCTTCTGCTCTCC	GPCR
GPR114	AACCTCAGGGATCCTGTGAA	AAGACACAGGTCAGGGTGTA	GPCR
GPR124	TCACCTCCGAGACCTTCCA	CCAGGTTGCAGACTGGAGAA	GPCR
GPR183	ACAGAGACCCGAACGAGTCA	AGTTGCAGAGGGCGGAGTAA	GPCR
HIF1a	CAGTCGACACAGCCTGGATA	TTCTTCTGGCTCATATCCCATCAA	GPCR
LPHN1	GCTGTCTGCCAAAACCATCA	AAGAGGCCCAGGTTGTTGTA	GPCR
LPHN2	TTTACCCTGCCACACATTGA	GACCAATATCCCATCATAGTTCTCTC	GPCR
PTGER2	CCACCTCATTCTCCTGGCTA	TCCTTTCGGGAAGAGGTTTCA	GPCR
PTGER4	GTGCTCATCTGCTCCATCCC	CTCGCTCCAAACTTGGCTGATA	GPCR
S1PR1	AAGCGAGCCGTACAGATCC	GAGAGGGCCTCGGAAACC	GPCR
VIP1R	ATAAAGGGCCCCATCCTCAC	GCCGCAGTTTCTGAAGCA	GPCR

Supplemental Table 2: Primer sequences for the detection of human genes by single-cell RT-PCR.