

Supplementary Information

A human memory T cell subset with stem cell-like properties

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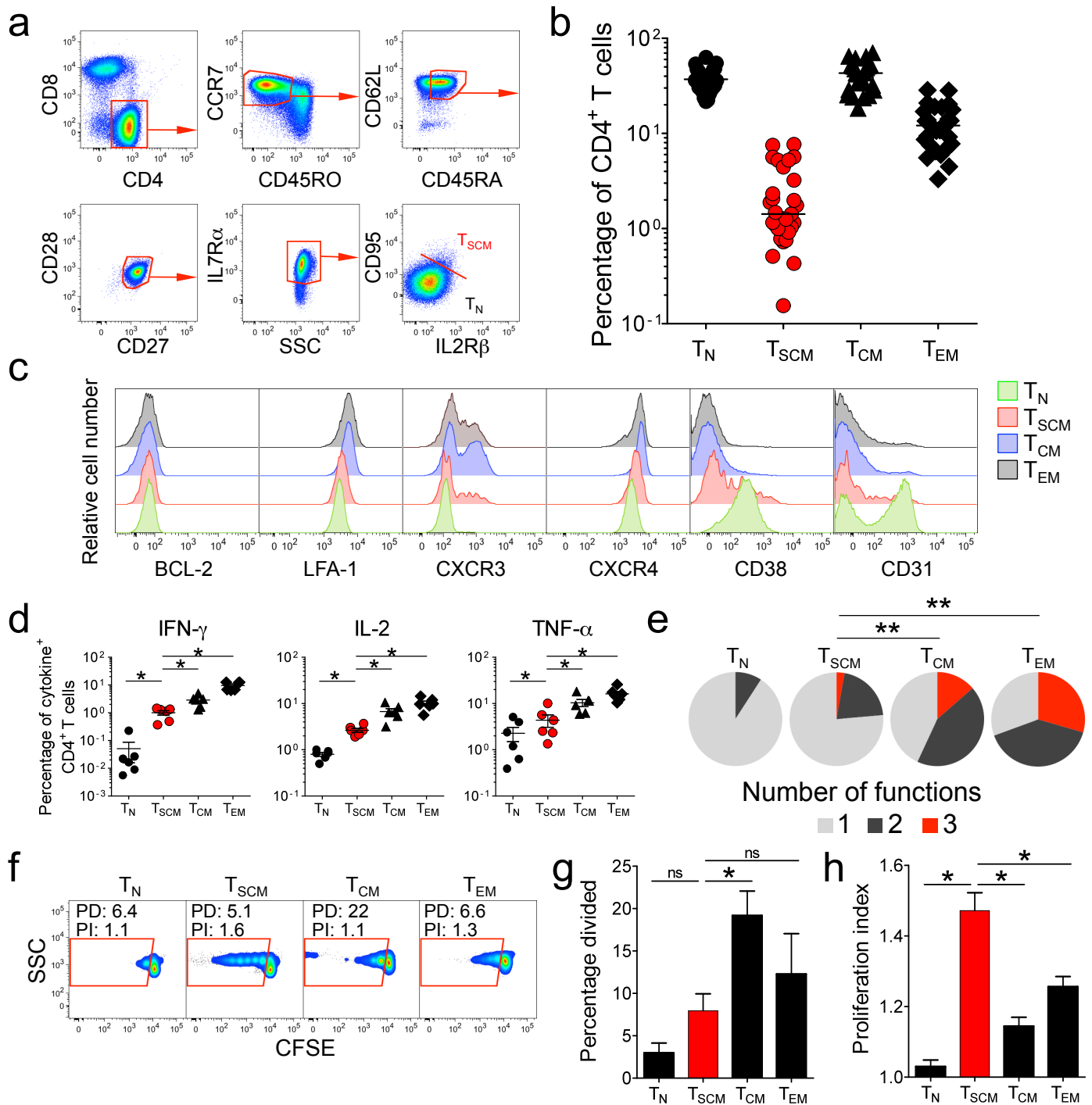
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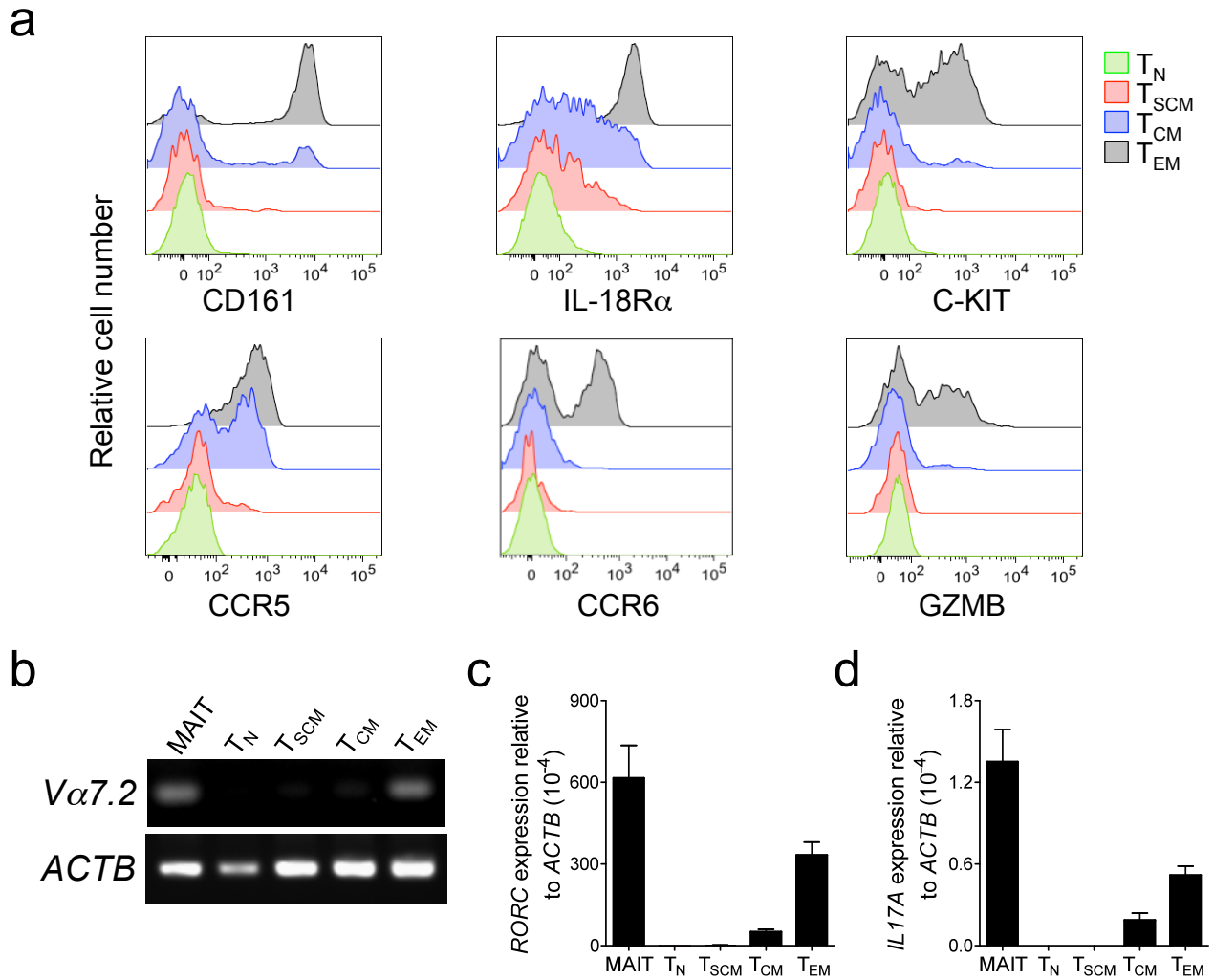
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* L.G, E.L, N.P.R. and M.R. contributed equally to this study

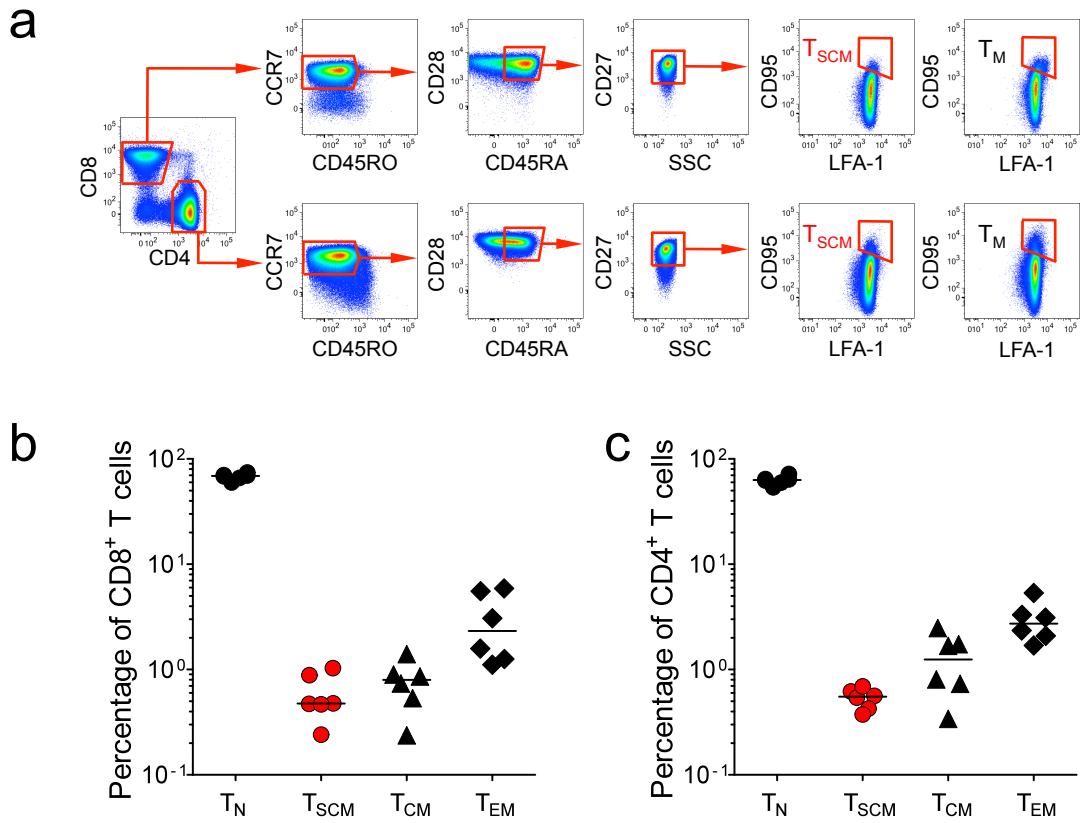
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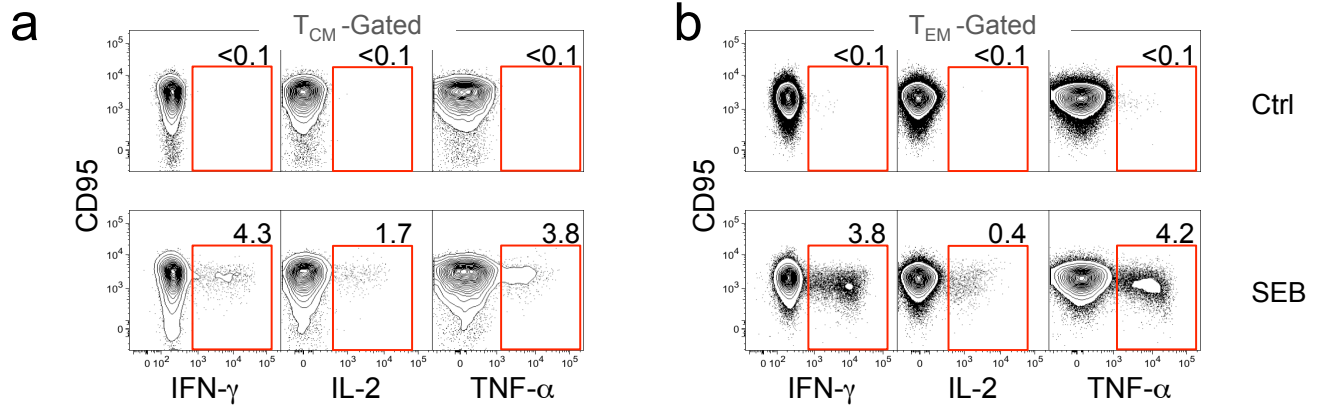
Supplementary Fig. 1. T_{SCM} cells are found within the CD4⁺ T-cell compartment. **a**, Flow cytometry analysis of PBMC of a healthy donor. Dot plots identify CD95⁺, IL2R β ⁺ T_{SCM} following depicted sequential gating. **b**, Percent of circulating CD4⁺ T cell subsets in 29 healthy donors. **c**, Flow cytometry analysis of PBMC from a healthy donor. Overlaid histogram plots show expression levels of a given molecule in different CD4⁺ T cell subsets. **d**, Percentage of CD4⁺ T cell subsets, producing IFN- γ , IL-2 and TNF- α after stimulation with SEB. Graph depicts the results from 6 healthy donors. **e**, Pie charts depicting the quality of the cytokine response in CD4⁺ T cell subsets as determined by the Boolean combination of gates identifying IFN- γ ⁺, IL-2⁺ and TNF- α ⁺ cells. **f**, CFSE dilution in sorted CD4⁺ T cell subsets after stimulation with 25 ng ml⁻¹ of IL-7 for 14 days. Data are shown after gating on CD4⁺ cells. PD: percent divided; PI: proliferation index. **g**, Percent divided cells and **h**, Proliferation index of different CD4⁺ T cell subsets after stimulation as in **e**. Data are represented as means \pm s.e.m of 4 different donors. *= $p < 0.05$; **= $p < 0.01$; ***= $p < 0.001$; ns= not significant.



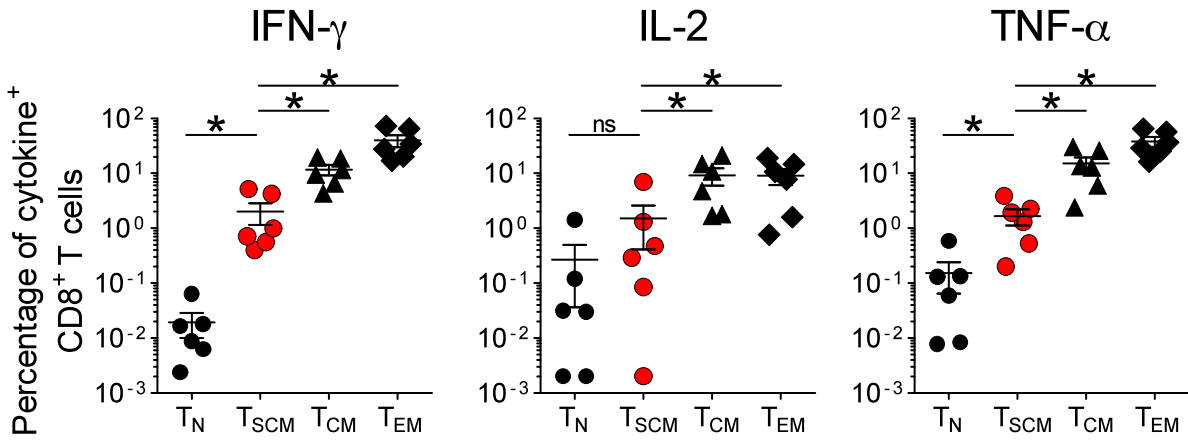
Supplementary Fig. 2. T_{SCM} cells do not comprise MAIT cells. **a**, Flow cytometry analysis of PBMC from a healthy donor. Overlaid histogram plots show expression levels of CD161, IL-18R α , c-Kit, CCR5, CCR6 and GZMB in different CD8⁺ T cell subsets. **b**, RT PCR products of V α 7.2 from sorted CD8⁺ T cell subsets and MAIT. MAIT were sorted for CD3⁺, CD8⁺, CD45RO⁺, CD62L⁻, CD161⁺, IL18R α ⁺. ACTB was used as control. **c,d** Quantitative RT-PCR analysis of the expression of RORC (**c**) and IL17A (**d**) in CD8⁺ T cell subsets and MAIT obtained as in panel **b**. Data are represented as means \pm s.e.m.



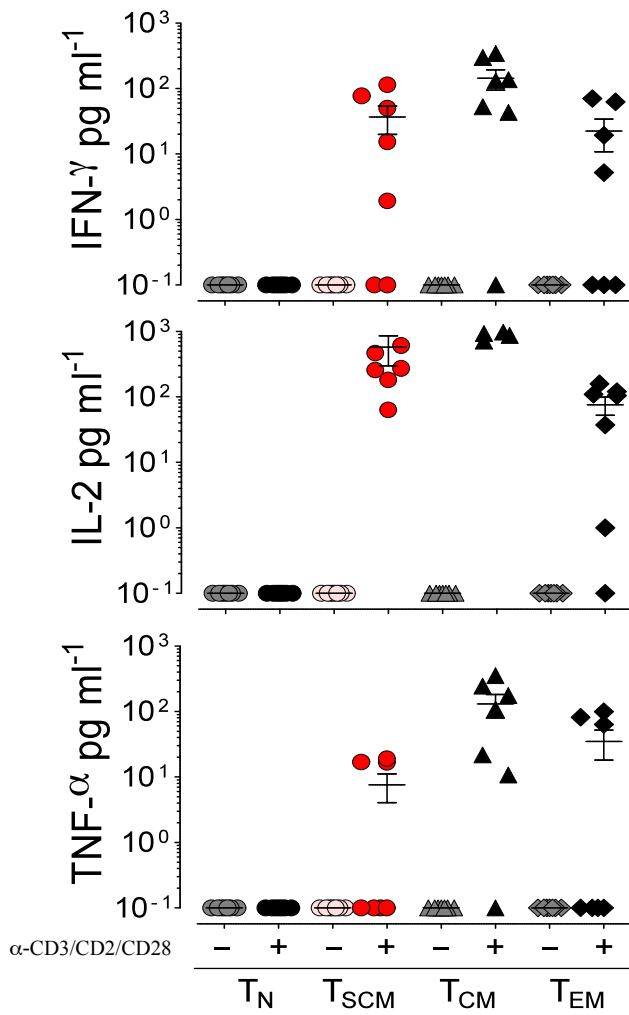
Supplementary Fig. 3. T_{SCM} cells are found in cord blood. **a**, Representative flow cytometry analysis of cord blood. Dot plots identify $CD95^+$, $LFA-1^+$ T_{SCM} following depicted sequential gating. T_M , Total memory cells in $CD8^+$ and $CD4^+$ T cells from cord blood. **b**, Percent of $CD8^+$ T cell subsets in the cord blood of 6 donors. **c**, Percent of $CD4^+$ T cell subsets in the cord blood of 6 donors.



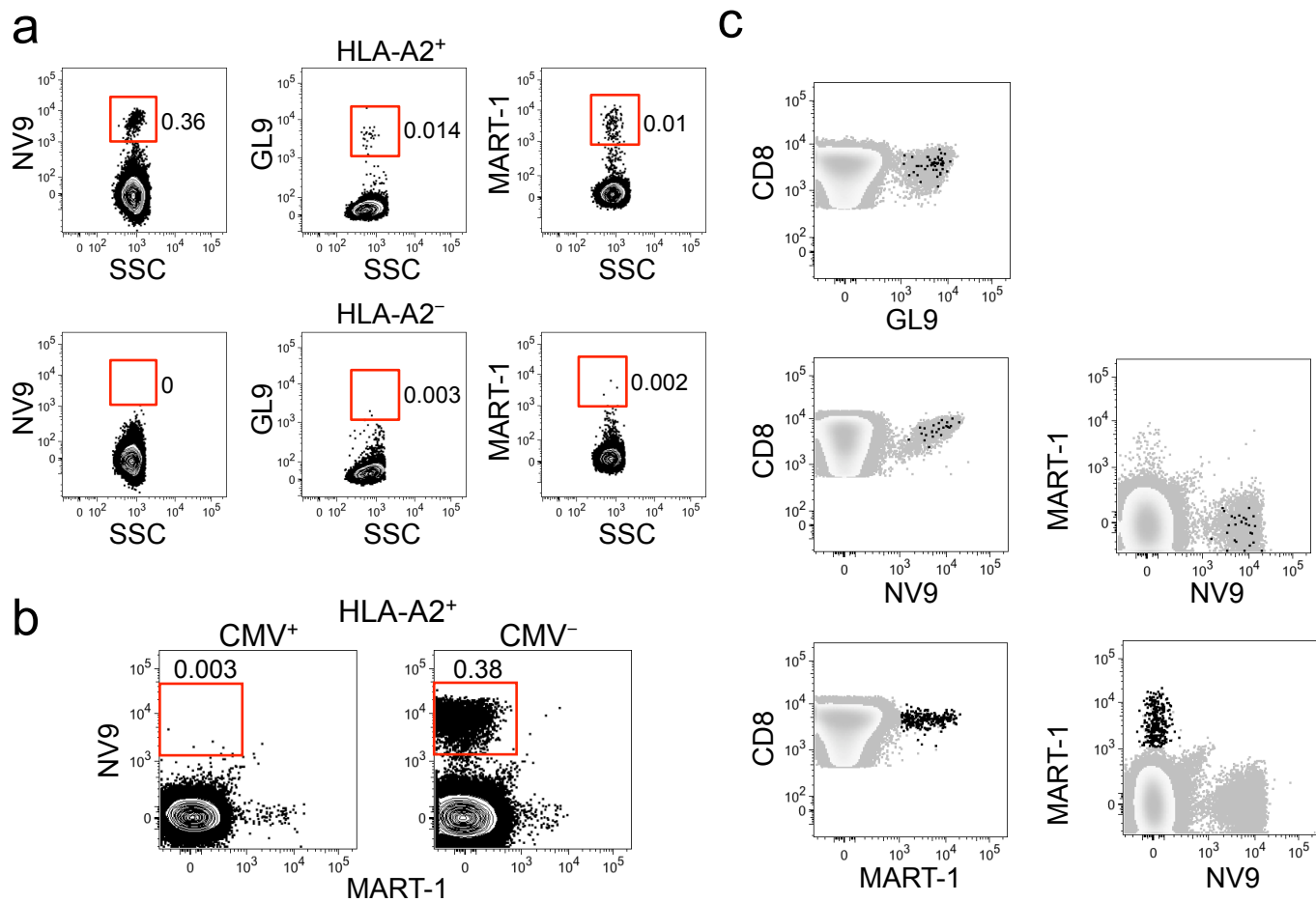
Supplementary Fig. 4. T_{CM} and T_{EM} cells rapidly acquire effector functions. Intracellular cytokine staining of PBMC from a healthy donor after a 4h stimulation with SEB. Dot plots show **a**, T_{CM} ($CD45RO^+CCR7^+CD45RA^-$) gated $CD8^+$ T cells, and **b**, T_{EM} ($CD45RO^+CCR7^-CD45RA^-$) gated $CD8^+$ T cells. Numbers represent the percentage of cells producing a single cytokine.



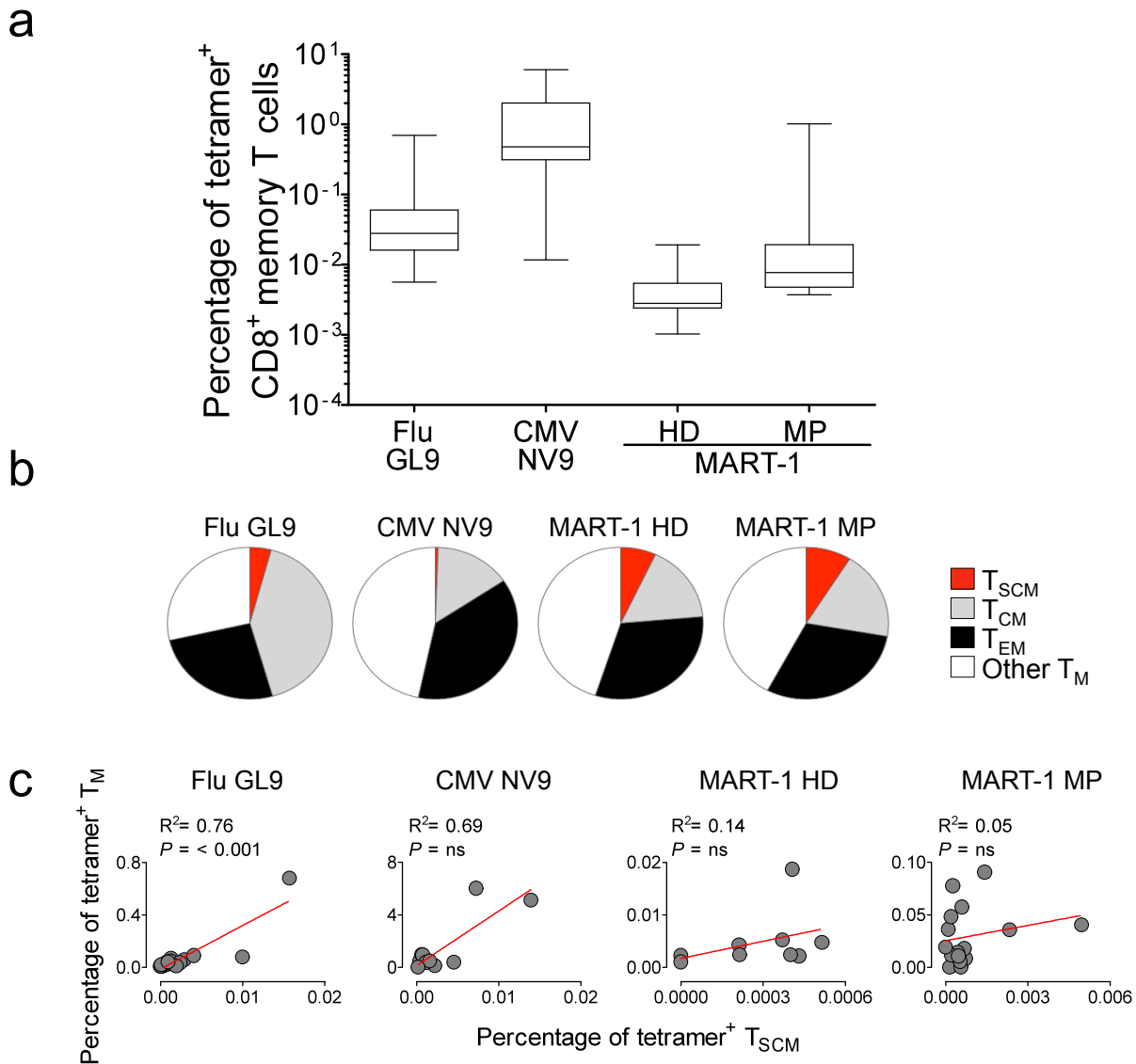
Supplementary Fig. 5. T_{SCM} cells rapidly acquire effector functions similar to conventional memory T cells. Percentage of CD8⁺ T cell subsets producing IFN- γ , IL-2 and TNF- α after a 4h stimulation with α -CD3/CD2/CD28 beads. Graphs depict the results from 6 healthy donors



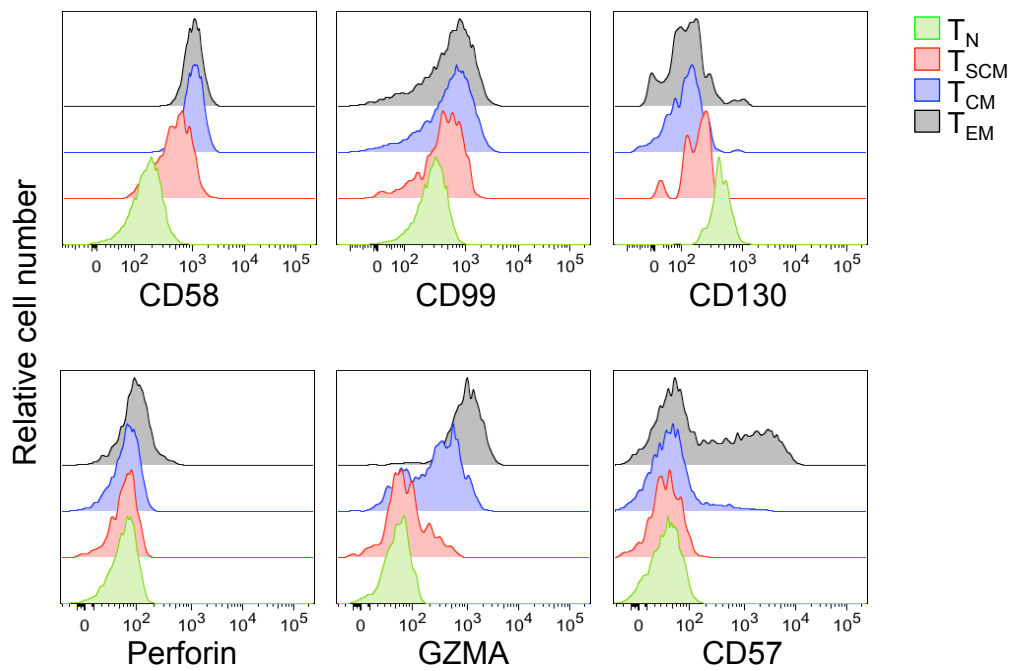
Supplementary Fig. 6. T_{SCM} cells rapidly release cytokines similar to conventional memory T cells. IFN- γ , IL-2 and TNF- α release by sorted CD8⁺ T cell subsets after a 24h stimulation with α -CD3/CD2/CD28 beads. Cytokine levels were determined using cytokine bead arrays. Graphs depict the results from 6 healthy donors.



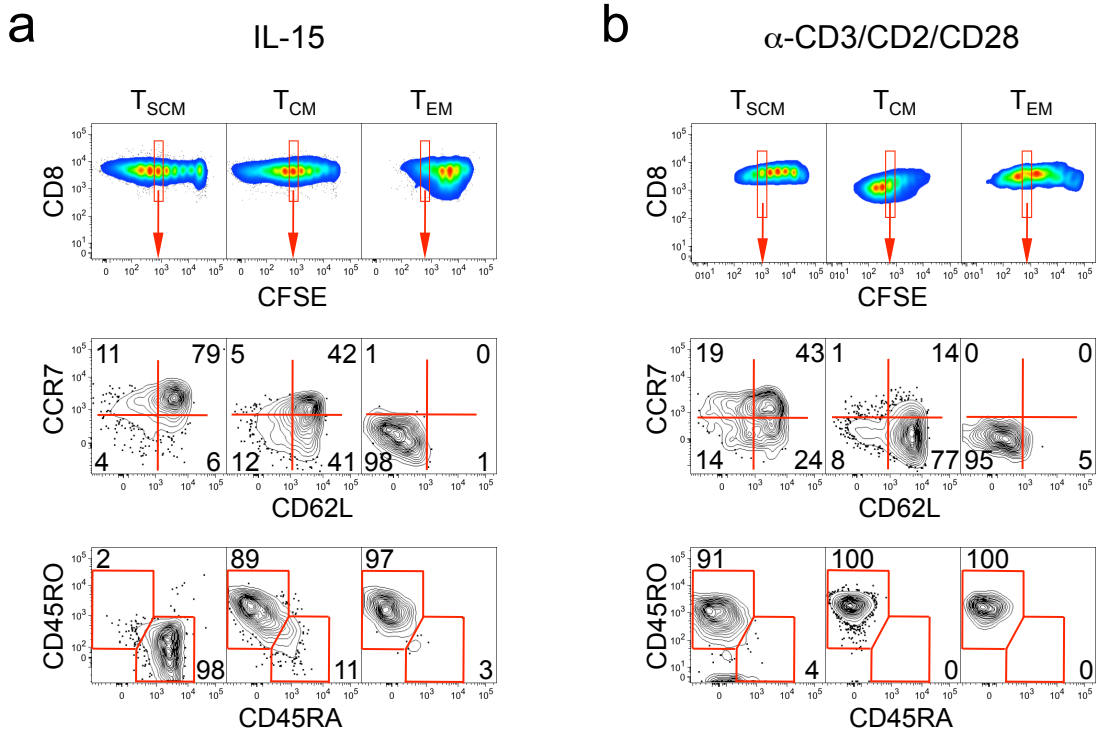
Supplementary Fig. 7. Specificity of tetramer binding. a, Representative flow cytometry of PBMC of HLA-A2⁺ and HLA-A2⁻ donors. Graphs are shown after gating on CD8⁺ T cells. **b**, Representative flow cytometry of PBMC of CMV⁺ and CMV⁻ donors. Graphs are shown after gating on CD8⁺ T cells. **c**, Representative flow cytometry of PBMC of healthy donors. Black dots show tetramer⁺ NL-gated (CD45RO⁻CCR7⁺CD45RA⁺CD27⁺IL7R α ⁺) CD8⁺ T cells over bulk CD8⁺ T cells (grey density plot).



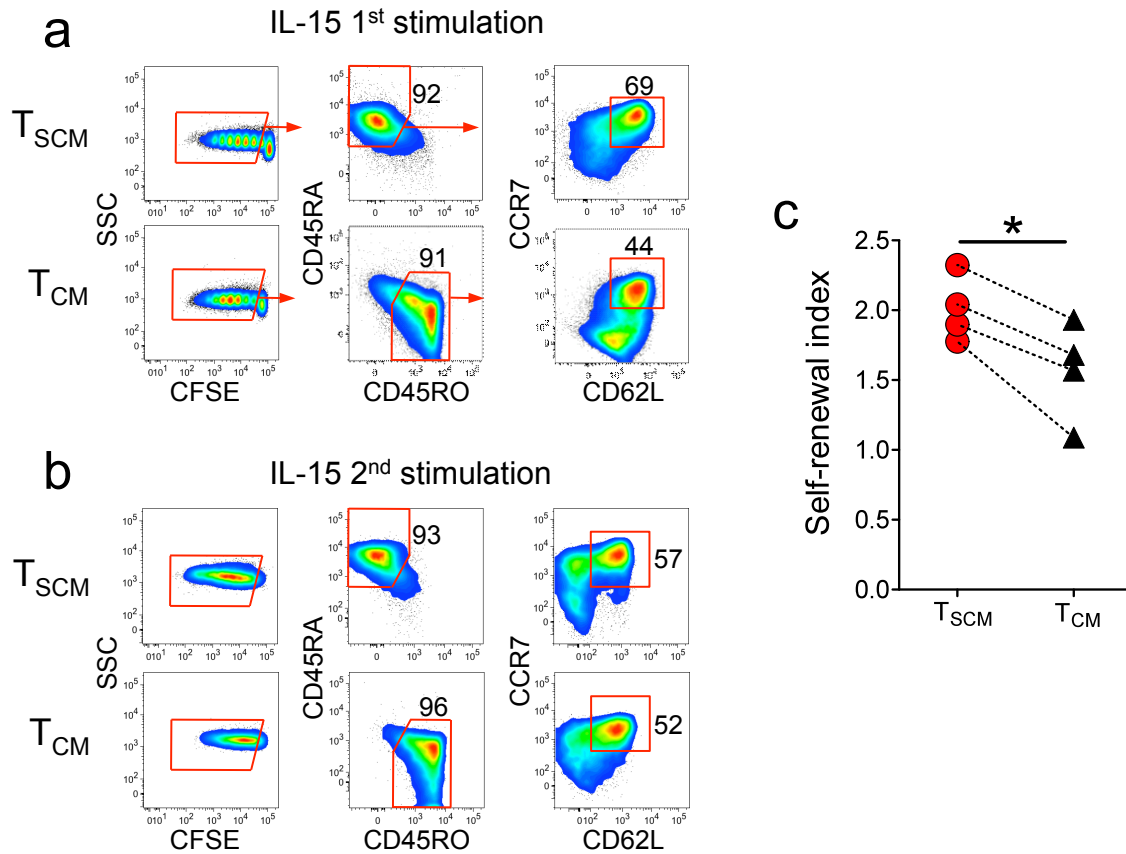
Supplementary Fig. 8. T_{SCM} cells bear viral and self/tumour specificities. **a**, Percent of tetramer⁺ CD8⁺ memory T cells for Influenza matrix protein₅₈₋₆₆ (GL9), CMV pp65₄₉₅₋₅₀₃ (NV9), and MART-1₂₆₋₃₅ (27L). Data are represented as means \pm s.e.m of 19 donors (GL9), 10 donors (NV9), 9 donors (MART-1 HD) and 17 donors (MART-1 MP). **b**, Pie charts depicting the distribution of different memory CD8⁺ T cell subsets among tetramer⁺ memory T cells. Data are represented as means of 19 donors (GL9), 10 donors (NLV), 9 donors (MART-1 HD) and 17 donors (MART-1 MP). Memory subsets were defined as follows: T_{SCM}: CD45RO⁻CCR7⁺CD45RA⁺CD27⁺IL7R α ⁺CD95⁺; T_{CM}: CD45RO⁺CD45RA⁻CCR7⁺; T_{EM}: CD45RO⁺CD45RA⁻CCR7⁻; Other T_M: cells that do not have a T_{SCM}, T_{CM}, or a T_{EM} phenotype. **c**, Correlation between percent of tetramer⁺ conventional memory T cells (T_M) and tetramer⁺ T_{SCM}. Conventional memory were defined as CD8⁺ T cells that were not CD45RA⁺CCR7⁺CD27⁺. HD: healthy donor; MP: melanoma patient.



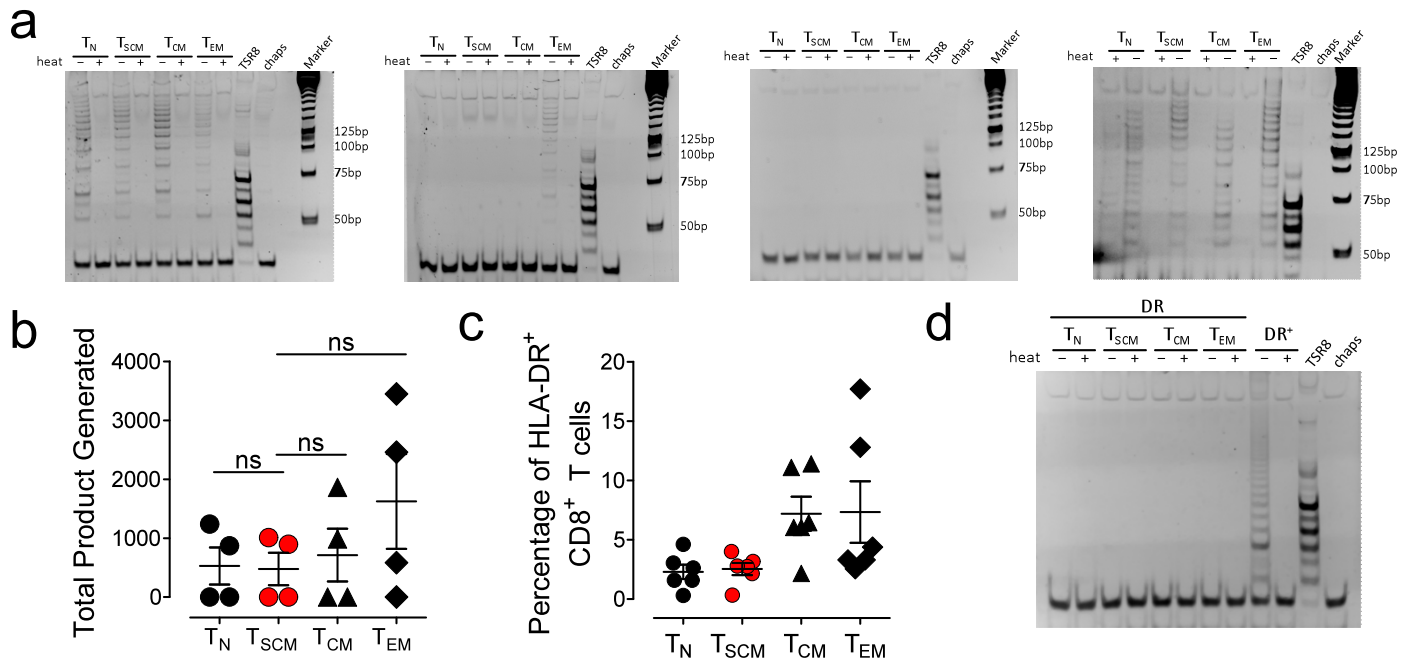
Supplementary Fig. 9. Phenotypic characterization of T_{SCM} cells. Flow cytometry analysis of PBMC from a healthy donor. Overlaid histogram plots show expression levels of a given molecule in different CD8⁺ T cell subsets.



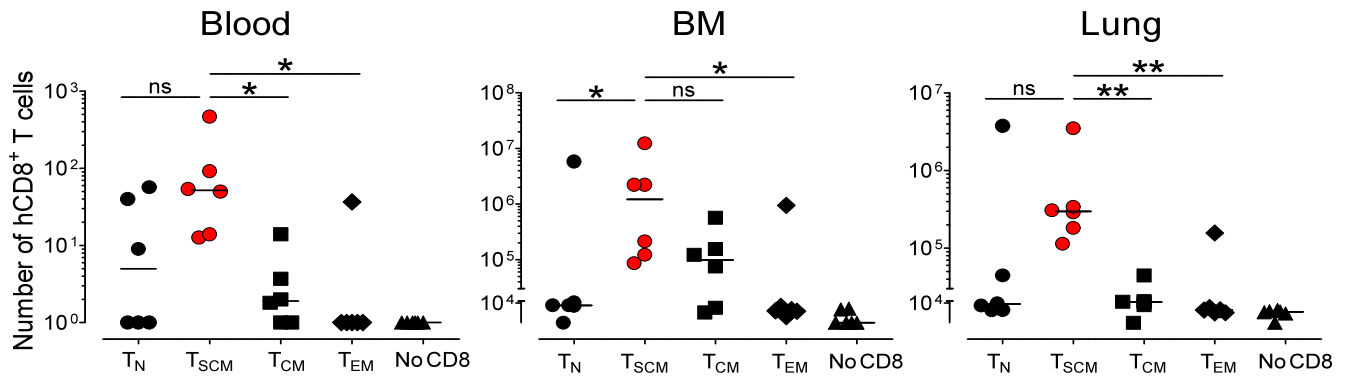
Supplementary Fig. 10. Self-renewal and multipotency of T_{SCM} cells. **a**, CFSE dilution of sorted T_{SCM}, T_{CM} and T_{EM} after exposure to 25ng ml⁻¹ of IL-15. Graphs show the phenotype of CD8⁺ T cells that underwent 5 divisions in a representative experiment. **b**, CFSE dilution of sorted T_{SCM}, T_{CM} and T_{EM} after stimulation with α -CD3/CD2/CD28-coated beads. Dot plots show the phenotype of CD8⁺ T cells that underwent 5 divisions in a representative experiment.



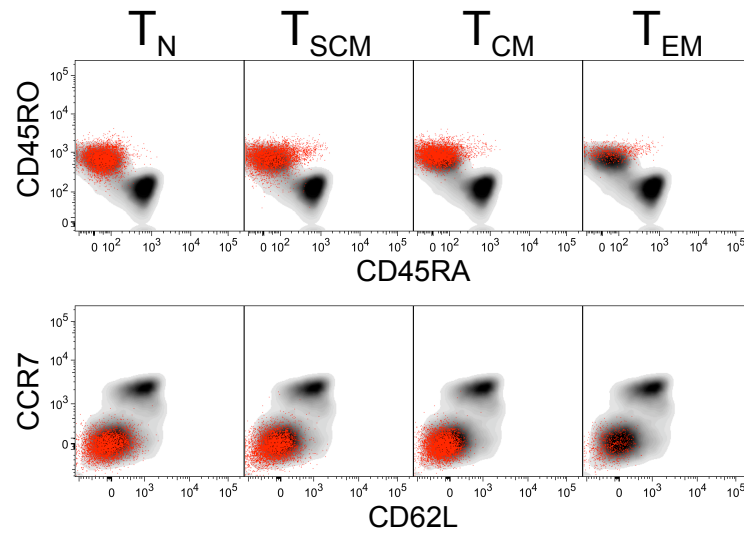
Supplementary Fig. 11. Increased self-renewal of T_{SCM} cells following secondary IL-15 stimulation. a, Sorting strategy of CFSE-diluted T_{SCM} and T_{CM} after exposure to 25ng ml⁻¹ of IL-15. **b,** Flow cytometry analysis of sorted T_{SCM} and T_{CM} after a secondary stimulation with 25ng ml⁻¹ of IL-15. Dot plots show the phenotype of CFSE-diluted CD8⁺ T cells in a representative experiment. **c,** Self-renewal Index (SI) of CD8⁺ memory T cell subsets following secondary stimulation with 25ng ml⁻¹ of IL-15. SI was calculated as follows: $SI = 2^{PI} P_{RP}$, PI=Proliferation Index, P_{RP}= Percent of cells retaining the input phenotype. Graph depicts the results from 4 healthy donors; *p= <0.05



Supplementary Figure 12 . Telomerase activity is reflective of recent cellular activation rather than a property of resting memory T cells. a, Trapeze assay on CD8⁺ T cell subsets from 4 healthy donors. **b,** Total Product Generated (TPG) in CD8⁺ T cell subsets **c,** Percent of HLA-DR⁺ cells in different CD8⁺ T cell subsets. **d,** Trapeze assay of CD8⁺ HLA-DR⁻ T cell subsets and HLA-DR⁺ bulk CD8⁺ T cells from a representative healthy donor. Data are consistent with those found by Romero *et al.*¹

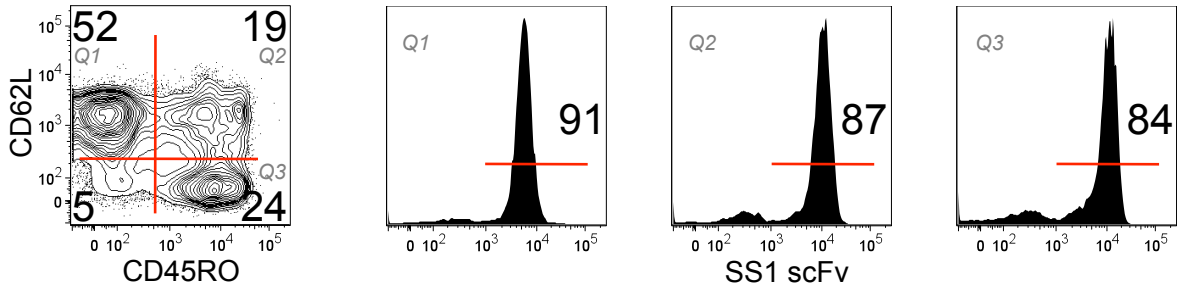


Supplementary Fig. 13. T_{SCM} cells reconstitute immunodeficient hosts more efficiently than other CD8⁺ T-cell subsets. Absolute human CD8⁺ T cell recovery in the blood, bone marrow (BM) and lung of NSG mice 4 weeks following adoptive transfer of CD4⁺ T cells with or without sorted CD8⁺ T cell subsets. A total of 6 mice per T cell subset from two independent experiments (3 replicate mice per T cell subset/experiment) are shown. Horizontal bars indicate median values. ns= not significant *= $p < 0.05$; **= $p < 0.01$.

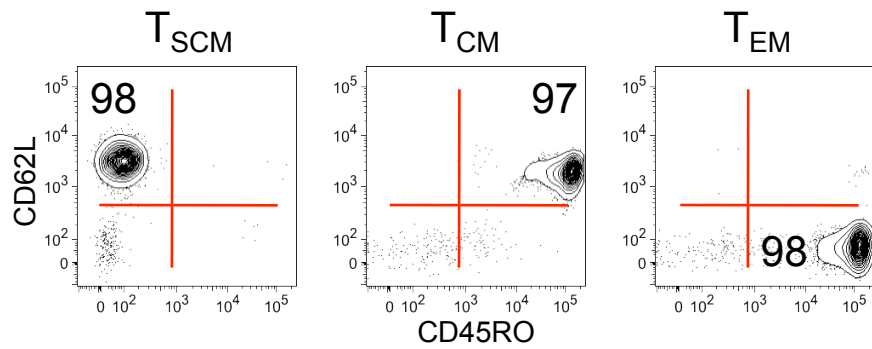


Supplementary Fig. 14. Effector differentiation of human CD8⁺ T cells following transfer in NSG mice. Flow cytometry analysis of human T cells (in the spleen of a representative NSG mouse at 4 weeks following adoptive transfer of CD4⁺ T cells (5×10^6) with or without sorted CD8⁺ T cell subsets (1×10^6)). Graphs show T cells (red dots) overlaid to lymphocytes from peripheral blood of a healthy donor shown as density plot.

a



b



Supplementary Fig. 15. Generation of mesothelin-specific CD8⁺ T-cell memory subsets. **a**, Flow cytometry analysis of enriched CD8⁺ T cells transduced with the anti-mesothelin chimeric receptor SS1–BB:TCR- ζ after 17 days stimulation with α -CD3/CD28-coated beads and IL-2 in the presence of TWS119. **b**, Flow cytometry analysis of CD8⁺ T cell memory subsets after sorting with MACS positive selection Multisort kits.

Supplementary Table 2 Differentially regulated genes among CD8+ T cell subsets

Gene Symbol	p-value(T cell subtype)	p-value(TSCM vs. TN)	Fold-Change(TSCM vs. TN)	p-value(TSCM vs. TEM)	Fold-Change(TSCM vs. TEM)	p-value(TN vs. TEM)	Fold-Change(TN vs. TEM)	p-value(TSCM vs. TEM)	Fold-Change(TSCM vs. TEM)	p-value(TN vs. TEM)	Fold-Change(TN vs. TEM)
991E-08	0.0022627	1.6927	0.0012842	1.6927	0.00129176	3.06E-05	2.84134	0.20612	2.84134	0.20612	1.06189
THBS1	1.30E-07	0.0012839	2.22071	0.539797	0.0026058	-2.37571	0.00062317	-11.7726	1.84E-05	-4.85542	-1.85213
ADAM8	0.0004504	1.7278	1.0004504	1.7278	0.0004504	-2.45769	0.00117821	-4.28523	0.00411281	-4.28523	0.00411281
CD58	0.000637	0.00471822	0.000637	0.00471822	0.000637	-0.85231	0.000512303	-0.79448	0.0016847	-0.79448	0.0016847
SNORD115-42	5.42E-07	0.00507121	1.66351	0.332156	0.0025897	1.67957	0.00125824	1.61594	0.493039	0.000825205	1.63154
ABO2	1.15E-02	0.0014776	1.15022	0.0014776	1.15022	-1.28043	0.00075178	-1.28043	0.00075178	-1.28043	0.00075178
MAN1A	1.42E-06	0.00176308	1.34504	0.00176308	1.34504	-2.58619	0.00121487	-1.5721	0.00220774	-2.12866	0.00220774
NSUN5B	1.53E-06	0.0061013	1.14155	0.0012585	1.2194	0.00089202	1.38545	0.00148922	1.39201	0.00210726	1.58156
PIRFBP2	1.70E-06	0.00097059	1.78024	0.00097059	1.78024	0.002002362	1.46844	0.00191413	1.46844	0.00191413	1.36234
FOSL2	1.78E-06	0.00031153	3.95086	0.0217722	0.0015417	1.67908	0.00129176	3.06E-05	2.84134	0.20612	1.06189
NBEAL2	1.94E-06	0.00112484	2.22995	0.0163264	-2.38181	2.52E-06	0.00027459	-5.31132	0.00177255	-7.49775	0.0048659
MYL6	1.97E-06	0.00089762	3.93023	0.0403337	-1.57598	0.0143397	-5.95705	-0.19395	0.00136838	-23.4149	0.00620714
SNORD115-26	1.98E-05	0.000498396	1.98925	0.935878	1.00034	0.00171497	1.8433	0.00037234	-2.04472	1.48004	0.00891325
CLND1D	2.17E-06	0.00427788	2.94177	0.0176366	0.97318	1.00185	0.00129176	3.64197	0.00530209	-2.96334	0.0768838
TM6D	2.51E-06	0.0044821	32.979	0.174343	-1.03011	0.00250324	-1.43937	0.0075545	-33.663	0.00286564	-47.0371
SD22A	2.51E-06	0.00120844	2.02574	0.0010689	-1.3314	0.0049069	-2.77655	0.0004498	-2.69706	0.0041488	-6.52454
NBEA	3.08E-06	0.00532862	3.62393	0.898431	1.0011	0.0101654	2.03419	0.0081575	3.62792	0.000182885	7.37175
SNORD115-6	3.45E-06	0.00666883	1.65258	0.0636104	1.25916	0.00268378	1.4459	0.00274415	-1.57307	0.232622	1.02638
CHST11	3.49E-06	0.00364439	1.38419	0.0286141	-1.26324	0.0146163	-1.4403	0.00345869	1.74857	0.00290503	-1.99364
TM4D	3.51E-06	0.392733	-1.1021	0.00292324	3.31465	0.0089716	4.46749	0.00090144	3.65308	0.002142	1.71279
AUTS2	3.55E-06	0.0006008	1.69322	0.162588	-2.62064	0.00089842	-8.96817	0.00065825	-4.22058	0.00175802	-3.97876
SNORD115-11	3.56E-06	0.00022654	1.97287	0.790166	-1.01425	0.00287006	1.81534	0.00305121	-2.00088	0.170102	-1.08678
SNORD115-11	3.56E-06	0.00022654	1.97287	0.790166	-1.01425	0.00287006	1.81534	0.00305121	-2.00088	0.170102	-1.08678
SNORD115-11	3.56E-06	0.00022654	1.97287	0.790166	-1.01425	0.00287006	1.81534	0.00305121	-2.00088	0.170102	-1.08678
PP4K2A	3.56E-06	0.00179862	1.06454	0.0061658	-1.06454	0.0061658	-1.06454	-1.10719	0.00308296	-1.10719	-1.10719
MYO1F	3.99E-06	0.0058135	2.86031	0.052977	1.62044	-8.0066322	-2.88121	0.00795721	-8.49644	0.00109004	-8.49644
SNORD115-12	4.48E-06	0.00053372	1.98743	0.661634	-1.02297	0.00587459	1.807	0.00164297	-2.03308	0.178951	-1.09895
SNORD115-12	4.48E-06	0.00053372	1.98743	0.661634	-1.02297	0.00587459	1.807	0.00164297	-2.03308	0.178951	-1.09895
SNORD115-12	4.48E-06	0.00053372	1.98743	0.661634	-1.02297	0.00587459	1.807	0.00164297	-2.03308	0.178951	-1.09895
SDK2	4.88E-06	0.00385422	-2.12094	0.00077969	1.60821	0.0163392	2.24881	0.0014058	3.41124	0.00245489	4.7896
UNKNOWN	5.02E-06	0.00323405	2.73392	0.189789	0.00347522	-5.34257	0.00359932	-3.31227	0.00112961	-12.6282	0.00655749
FAM129A	5.04E-06	0.0019155	0.46155	0.0019155	0.46155	0.0019155	0.46155	0.27132	0.00705899	0.27132	0.00705899
DNAJC1	5.88E-06	0.0037474	1.35392	0.0220099	-1.2568	0.0088751	-1.80865	0.00809715	-1.70161	0.0068035	-2.44877
FLJ13953	6.22E-06	0.0012951	-2.2138	0.024004	1.05294	0.0404187	1.12959	0.00278489	1.28603	0.00144665	1.37963
AC079	6.41E-06	0.00097059	1.78024	0.00097059	1.78024	0.00097059	1.78024	0.00097059	1.78024	0.00097059	1.78024
TARP	6.41E-06	0.00192343	2.09912	0.0239152	-1.40396	0.0132221	-4.92327	0.00481382	-2.95841	0.00119677	-10.3345
GBP2	6.61E-06	0.00623545	1.39534	0.5489	1.02481	0.0184151	-1.30428	0.00242522	-1.30778	0.00145891	-1.7654
SELL	6.84E-06	0.001176	1.92568	0.001176	1.92568	0.001176	1.92568	0.001176	1.92568	0.001176	1.92568
HMG3B	6.94E-06	0.0155738	1.68247	0.00082397	-2.02835	0.0018988	1.24741	0.00743696	-1.34784	0.0574914	-1.34784
FOPX1	6.96E-06	0.00121515	-1.3705	0.008018	0.0013601	1.4436	0.000916398	1.59299	0.00253209	1.97844	0.0188445
EMR1A	7.02E-06	0.0014352	1.00183	0.0014352	1.00183	0.0014352	1.00183	0.0014352	1.00183	0.0014352	1.00183
LRRN1	7.33E-06	0.00329559	-2.67153	0.00083301	1.01163	0.0244868	2.89665	0.000610973	4.84648	0.00324048	7.7848
WNT7A	7.97E-06	0.0241275	1.11277	0.986515	1.00612	0.00381162	2.48233	0.133627	-1.11095	0.0013352	2.22077
RNF166	8.34E-06	0.00583847	1.44910	0.00583847	1.44910	0.00583847	1.44910	0.00583847	1.44910	0.00583847	1.44910
FAM38A	9.28E-06	0.0028923	2.03802	0.0118389	-1.57233	0.0115776	-1.71683	0.00656741	-3.20444	0.00197569	-3.48892
PTFRM	9.33E-06	0.00797741	2.1391	0.0234441	-2.16005	0.00891706	-4.74301	0.00644218	-4.82186	0.0024364	-0.28721
MAI	9.45E-06	0.00369117	1.65439	0.00369117	1.65439	0.00369117	1.65439	0.00369117	1.65439	0.00369117	1.65439
STR3A1	9.70E-06	0.0077112	3.9827	0.122733	-1.34792	0.17017	-1.04361	0.00061705	-3.58386	0.000483408	-4.1564
IDS	9.70E-06	0.0036625	1.16934	0.0232766	-1.18879	0.00335054	-1.18879	0.00335054	-1.18879	0.00335054	-1.18879
JOSD1	9.70E-06	0.00797741	2.1391	0.0234441	-2.16005	0.00891706	-4.74301	0.00644218	-4.82186	0.0024364	-0.28721
CLSTN3	1.01E-05	0.00890614	1.53354	0.0764763	-1.34947	0.0172097	-1.99443	0.00422362	-2.09484	0.00200357	-3.05869
IRF8	1.02E-05	0.0123566	1.64251	0.00140133	-1.26333	0.00120308	-1.09111	0.0074909	-2.07504	0.0063982	-1.78216
PRF8	1.02E-05	0.0123566	1.64251	0.00140133	-1.26333	0.00120308	-1.09111	0.0074909	-2.07504	0.0063982	-1.78216
LRIG1	1.06E-05	0.0089325	2.58571	0.085408	0.0297177	-1.23479	0.00323754	-3.52707	0.00468887	-3.1828	0.25104
PLND1	1.10E-05	0.00372958	3.96404	0.008104	-2.0415	0.0084936	-4.06917	0.0269567	-8.05279	0.00178859	-19.2139
HBST1	1.10E-05	0.00372958	3.96404	0.008104	-2.0415	0.0084936	-4.06917	0.0269567	-8.05279	0.00178859	-19.2139
CACNB3	1.28E-05	0.0073627	1.35941	0.0105111	-1.68772	0.00130565	-2.30777	0.0142975	-2.35507	0.0031627	-3.2203
MYB	1.27E-05	0.017835	1.39819	0.0088121	2.96185	0.0021667	6.88021	0.0373774	2.22376	0.00171711	6.51711
DCO4	1.30E-05	0.0014352	1.00183	0.0014352	1.00183	0.0014352	1.00183	0.0014352	1.00183	0.0014352	1.00183
RHOH	1.31E-05	0.00235656	-1.3093	0.0193259	1.06238	0.00517862	1.39088	0.0153207	1.39088	0.00080369	1.83109
FAM113A	1.33E-05	0.00143708	-1.2745	0.014515	1.15454	0.014088	1.40921	0.00400793	1.47602	0.0108941	1.68589
SNORD115-20	1.33E-05	0.00143708	-1.2745	0.014515	1.15454	0.014088	1.40921	0.00400793	1.47602	0.0108941	1.68589
NP1	1.40E-05	0.0023133	1.63156	0.03474	0.00065103	-3.14888	0.00082624	-2.19733	0.00617869	-5.1376	0.0058172
MXRAT	1.42E-05	0.0053305	1.46491	0.0653788	-1.25857	0.00732335	-2.02843	0.00266262	-1.84237	0.00551176	-2.97148
SC7B	1.50E-05	0.0019155	0.46155	0.0019155	0.46155	0.0019155	0.46155	0.0019155	0.46155	0.0019155	0.46155
ATG2A	1.56E-05	0.0022061	1.24664	0.135856	-1.0953	0.0231172	-1.26128	0.000293133	-1.35887	0.00103101	-1.5648
ZNF238	1.56E-05	0.0023962	1.14016	0.0082134	1.14537	0.0010317	2.21422	0.0017633	3.05951	0.00255176	2.52457
NP1	1.56E-05	0.0022061	1.24664	0.135856	-1.0953	0.0231172	-1.26128	0.000293133	-1.35887	0.00103101	-1.5648
NCAHP	1.68E-05	0.00784854	2.76333	0.0144006	-3.90517	0.0420337	-2.74215	0.00124699	-10.7874	0.00519856	-7.54772
OCH2	1.68E-05	0.0063401	-1.03388	0.032784	1.15258	0.00140659	2.93399	0.194078	1.19182	0.000646608	3.03338
CHTRF	1.68E-05	0.0063401	-1.03388	0.032784	1.15258	0.00140659	2.93399	0.194078	1.19182	0.000646608	3.03338
PHACTR2	1.68E-05	0.0197976	2.1235	0.00015425	-2.3582	0.00214872	-2.98937	0.00646335	-5.00763	0.00268193	-6.34793
CTSP1	1.68E-05	0.0029861	-1.05071	0.00087799	-1.10893	0.00630572	-1.33986	0.00816778	-1.0554	0.00487595	-1.27519
HIF1-3A	1.68E-05	0.0029861	-1.05071	0.00087799	-1.10893	0.00630572	-1.33986	0.00816778	-1.0554	0.00487595	-1.27519
UNKNOWN	1.78E-05	0.00497872	1.73441	0.093414	1.17683	6.35E-05	1.78281	0.0005932	-1.4738	0.662793	1.01948
ADCY5	1.84E-05	0.0018301	1.27208	0.0134048	-1.11972	0.0107422	-2.0838	0.0231401	-1.42438	0.00106477	-2.65077
EPHA4	2.00E-05	0.000451534	1.03023	0.0059008	-1.45813	0.61864	-1.16331	0			

RGMB	6.39E-06	0.0786522	-1.42335	0.10852	-1.05236	0.0066771	1.94006	0.0619359	1.35253	0.0082802	2.76137	0.00712346	2.04164	
15F17H	6.02E-06	0.0786522	-1.42335	0.10852	-1.05236	0.0066771	1.94006	0.0619359	1.35253	0.0082802	2.76137	0.00712346	2.04164	
CFE9B	6.50E-05	0.25325	-1.10398	0.80564	-1.02092	0.0021362	2.26061	0.431534	1.17207	0.00678429	2.49659	0.00222545	2.21429	
PRRL	6.50E-05	0.25325	-1.10398	0.80564	-1.02092	0.0021362	2.26061	0.431534	1.17207	0.00678429	2.49659	0.00222545	2.21429	
PK74	0.008174	0.031055	2.12998	0.0046213	-3.43362	0.0242373	-8.68834	0.00200866	-9.25719	0.00894646	-18.5059	0.129653	-2.00225	
16K74	0.008174	0.031055	2.12998	0.0046213	-3.43362	0.0242373	-8.68834	0.00200866	-9.25719	0.00894646	-18.5059	0.129653	-2.00225	
6.70E-05	0.031055	2.12998	0.0046213	-3.43362	0.0242373	-8.68834	0.00200866	-9.25719	0.00894646	-18.5059	0.129653	-2.00225		
SNDR115-1	6.94E-05	0.0117041	1.64891	0.565028	1.04113	0.0179727	1.53743	0.00528886	-1.58376	0.260942	-0.107251	0.00112887	1.47668	
SNDR115-1	6.94E-05	0.0117041	1.64891	0.565028	1.04113	0.0179727	1.53743	0.00528886	-1.58376	0.260942	-0.107251	0.00112887	1.47668	
SNDR115-1	6.94E-05	0.0117041	1.64891	0.565028	1.04113	0.0179727	1.53743	0.00528886	-1.58376	0.260942	-0.107251	0.00112887	1.47668	
PRM1	7.34E-05	0.0304914	3.57947	0.017462	-1.90451	0.0126655	-5.26597	0.0144421	-6.81716	0.00906542	-18.8494	0.0654196	-2.76489	
FNDR153B	7.45E-05	0.0291436	3.42678	0.016993	-1.85204	0.0126655	-5.26597	0.0144421	-6.81716	0.00906542	-18.8494	0.0654196	-2.76489	
PNR153B	7.45E-05	0.0291436	3.42678	0.016993	-1.85204	0.0126655	-5.26597	0.0144421	-6.81716	0.00906542	-18.8494	0.0654196	-2.76489	
YFGB	0.0185665	0.0234919	-1.31998	0.0785665	-1.17451	0.0040013	1.28432	0.0120522	1.55033	0.00789048	1.69528	0.122598	1.09325	
TNP3	7.39E-05	0.021607	5.32963	0.0024919	-1.7867	0.0487888	-3.08583	0.0110076	-9.57576	0.00697884	-16.4463	0.14262	-1.7175	
SCDS	0.0287573	1.24504	0.0116796	-1.87333	0.476676	-1.07026	0.0131351	-2.98002	0.0147281	-1.94807	0.00877324	1.55038	1.0066613	
7.72E-05	0.0287573	1.24504	0.0116796	-1.87333	0.476676	-1.07026	0.0131351	-2.98002	0.0147281	-1.94807	0.00877324	1.55038	1.0066613	
GFFT2	7.91E-05	0.127771	1.42217	0.0825789	-2.50871	0.00251449	-15.1223	0.0133483	-3.56781	0.0076656	-21.5066	0.050043	-6.02793	
LOIN	7.94E-05	0.0237674	1.81655	0.0509171	-1.83255	0.0146549	-2.4704	0.00601402	-2.98489	0.0164204	-4.79342	0.0346614	-2.08728	
EMB	8.00E-05	0.0592665	1.14865	0.0322222	-1.13522	0.0391293	-1.35236	0.00698274	-1.51798	0.00668412	-1.598342	0.227713	-1.0556	
SNDR109A	8.14E-05	0.0161184	-1.81824	0.181475	1.10307	0.0046372	1.1622	0.0108313	2.06565	0.0146253	2.11315	0.116852	1.0536	
SNDR109A	8.14E-05	0.0161184	-1.81824	0.181475	1.10307	0.0046372	1.1622	0.0108313	2.06565	0.0146253	2.11315	0.116852	1.0536	
SNDR109A	8.14E-05	0.0161184	-1.81824	0.181475	1.10307	0.0046372	1.1622	0.0108313	2.06565	0.0146253	2.11315	0.116852	1.0536	
HSFB	8.20E-05	0.0114372	2.44435	0.0200724	-1.0204	0.000274191	2.79013	0.0191146	-4.08708	0.056643	1.19414	0.01391	4.68524	
PTG8E2	8.27E-05	0.0145536	3.57687	0.0727158	1.1741	0.025767	-1.75137	0.0104511	-3.04647	0.016503	-6.26442	0.0343928	-2.05629	
PTFR1	8.27E-05	0.0229142	2.34668	0.00262562	-1.29106	0.0262866	-1.55175	0.0137746	-3.5459	0.014488	-3.70043	0.8656495	1.21131	
NETO2	8.29E-05	0.0013246	3.22444	0.024466	-1.02639	0.0267930	-1.48338	0.0079307	-7.78951	0.0107949	-12.4472	0.27863	-1.8741	
SLC27A2	8.37E-05	0.000461133	3.38665	0.431135	0.328427	1.12724	0.0102803	-3.87953	0.0107161	-2.98828	0.0107161	1.29781	1.29781	
QGDH	8.44E-05	0.0024981	1.91856	0.0438978	-1.23622	0.0170372	-1.19662	0.00373731	-2.31716	0.015272	-1.52717	0.683224	1.06278	
CAHM2	8.50E-05	0.0158978	1.85088	0.250143	-1.02626	0.0259952	-1.48338	0.0079307	-7.78951	0.0107949	-12.4472	0.27863	-1.8741	
UNKNOWN	8.52E-05	0.0030284	1.89049	0.0712011	-1.27441	0.288089	-1.07432	0.00808461	-2.41492	0.00416942	-2.20398	0.276215	1.19094	
8.60E-05	0.0119841	-1.07927	0.133876	1.12505	0.0114155	1.72979	0.103872	1.12423	0.00973022	1.86891	0.00814420	1.53752	1.53752	
TECC3	8.60E-05	0.0119841	-1.07927	0.133876	1.12505	0.0114155	1.72979	0.103872	1.12423	0.00973022	1.86891	0.00814420	1.53752	1.53752
ACTN1	8.89E-05	0.0183899	-1.67706	0.0244633	-2.27728	0.0152869	17.8448	0.0108189	3.81909	0.0104555	30.0944	0.0457959	7.87989	
TNFRSF10D	9.15E-05	0.0011848	1.17294	0.0014308	-1.31713	0.0104841	1.83683	0.00628972	2.25719	0.0153686	3.14947	0.0606424	1.3953	
NRCAM	9.28E-05	0.0046907	1.60833	0.042478	-1.04292	0.0454924	-1.54878	0.00269266	-1.96649	0.00269266	-1.96649	0.3841649	1.06219	
PLFN12L	9.28E-05	0.0046907	1.60833	0.042478	-1.04292	0.0454924	-1.54878	0.00269266	-1.96649	0.00269266	-1.96649	0.3841649	1.06219	
8.31E-05	0.0059994	1.63088	0.494224	-1.03051	0.0509989	-1.43295	0.0153142	-1.86937	0.0328844	-2.32997	0.00662519	-1.39053	1.39053	
PKAZ2	9.31E-05	0.0059994	1.63088	0.494224	-1.03051	0.0509989	-1.43295	0.0153142	-1.86937	0.0328844	-2.32997	0.00662519	-1.39053	1.39053
SYNE2	9.37E-05	0.0062851	1.14101	0.176121	-1.2194	0.0171406	-1.35416	0.0248853	-1.39135	0.00458954	-1.54511	0.110739	-1.110739	
ARL4C	9.37E-05	0.0062851	1.14101	0.176121	-1.2194	0.0171406	-1.35416	0.0248853	-1.39135	0.00458954	-1.54511	0.110739	-1.110739	
PAS	9.50E-05	0.0038198	0.64981	0.0119785	-1.81016	0.10336	-2.04996	0.0048502	-10.949	0.0154631	-12.3994	0.670708	-1.32447	
FFR1R15A	9.50E-05	0.0038198	0.64981	0.0119785	-1.81016	0.10336	-2.04996	0.0048502	-10.949	0.0154631	-12.3994	0.670708	-1.32447	
9.84E-05	0.025872	-1.07661	0.50407	1.04057	0.00416751	-1.55189	0.15291	1.12997	0.0624058	1.44746	0.0064368	1.18234	1.18234	
CIDEB	9.84E-05	0.025872	-1.07661	0.50407	1.04057	0.00416751	-1.55189	0.15291	1.12997	0.0624058	1.44746	0.0064368	1.18234	1.18234
ABO3C	9.88E-05	0.0191844	-1.21225	0.103557	-1.09911	0.190042	1.05917	0.0119451	1.10295	2.48E-05	-1.22428	0.0439901	-1.5834	
LGA5B-05	9.88E-05	0.0191844	-1.21225	0.103557	-1.09911	0.190042	1.05917	0.0119451	1.10295	2.48E-05	-1.22428	0.0439901	-1.5834	1.5834
MPR2B	0.00010192	0.0143906	-1.57057	0.0563466	-1.26201	0.524174	1.03401	0.0212791	1.98207	0.0212791	1.98207	0.113142	-1.2205	
SNDR109A	0.000105425	0.0578888	1.58764	0.0467981	-1.41077	0.0012057	-1.71087	0.00037217	-2.23799	0.0147421	-2.62639	0.130691	-1.12773	
CAHM2	0.000106933	0.0510436	1.49821	0.163001	-1.14509	0.0163001	-1.46251	0.00094924	-1.19662	0.00269266	-1.96649	0.3841649	1.06219	
FXO3B	0.00010782	2.37E-05	1.12719	0.341855	1.02477	0.0271159	-1.23211	0.0395966	-1.09995	0.0106812	-1.38883	0.0213308	-1.26283	
ARLPR1	0.000108891	0.012682	1.20313	0.0197925	-1.14255	0.0294896	-1.32837	0.0169427	-1.37463	0.0063312	-1.5982	0.0489017	-1.16284	
PCYOX1L	0.000108891	0.012682	1.20313	0.0197925	-1.14255	0.0294896	-1.32837	0.0169427	-1.37463	0.0063312	-1.5982	0.0489017	-1.16284	
BCL9	0.00011084	0.0356847	-2.27703	0.75978	1.04818	0.0486884	2.19311	0.012616	1.33343	0.000246249	1.75899	0.0587470	1.27215	
CALM	0.00011084	0.0356847	-2.27703	0.75978	1.04818	0.0486884	2.19311	0.012616	1.33343	0.000246249	1.75899	0.0587470	1.27215	
YYH11	0.000110803	0.0175112	5.12875	0.13887	-1.32085	0.158548	-1.91206	0.00197847	-6.77429	0.00119598	-9.80649	0.25848	-1.4476	
KNO7A4D	0.000112396	0.0304212	-1.1488	0.703714	1.0488	0.0176314	2.67605	0.203334	1.20486	0.091017	3.07426	0.00748204	2.55155	
STAB3	0.000112396	0.0304212	-1.1488	0.703714	1.0488	0.0176314	2.67605	0.203334	1.20486	0.091017	3.07426	0.00748204	2.55155	
UNKNOWN	0.000113772	0.0054949	1.60949	0.0811305	-1.28544	0.0225122	-1.06435	0.0143009	-2.0688	0.0135381	-1.71305	0.0757026	1.20721	
TMPO	0.000115497	0.0071152	-1.10563	0.150183	1.07398	0.0260752	1.30511	0.0120139	1.18742	0.0276988	1.44296	0.0260687	1.21253	
NEK6	0.0001156	0.0043908	0.71839	0.0449289	-1.07391	0.172713	1.32929	0.0123813	1.02687	0.0135381	1.64336	0.0135381	1.33679	
ANAPC13	0.000116102	0.120966	-1.06369	0.0259844	-1.70002	0.00392157	1.21714	0.0689376	1.12753	0.0106105	1.29466	0.0120754	1.18234	
ETV6	0.000116328	0.0019181	1.84454	0.012518	-1.23921	0.15319	1.09973	0.00512845	-2.28577	0.0125888	-1.68779	0.112858	1.38156	
SCARNA17	0.000117029	0.0048454	-1.05458	1.79E-05	-1.13406	0.106407	1.25041	0.00865322	1.19596	0.022763	1.31866	0.0632959	1.1026	
UNKNOWN	0.000120199	0.0173185	-1.51961	0.0640377	-1.55882	0.126407	1.32041	0.000881185	1.76096	0.00464291	2.03847	0.133725	1.16816	
MURP	0.000120199	0.0173185	-1.51961	0.0640377	-1.55882	0.126407	1.32041	0.000881185	1.76096	0.00464291	2.03847	0.133725	1.16816	
SLC6A6	0.000120567	0.000782064	1.1857	0.0805415	-1.29033	0.00678554	-1.82689	0.0334587	-1.52995	0.00478215	-2.16615	0.0888227	-1.41583	
COTL1	0.000121454	0.00129303	1.60261	0.00809958	-1.42394	0.073549	-1.20319	0.00918174	-2.28202	0.041092				

ZFAND1	0.000219262	0.02261679	-1.24167	0.026876	0.0164322	1.29932	0.0020899	1.39828	0.00855467	1.61333	0.02278013	1.1989
RUC3	0.000200044	0.00000000	-1.17443	0.000000	0.0000000	2.37201	0.00145819	2.76681	0.00233561	2.76681	0.00233561	2.19707
MF4	0.000200262	0.0147358	1.48967	0.0130032	-1.25304	0.00717109	-1.20627	-1.86661	0.0302361	-1.79964	0.415072	-1.79964
OLFM2	0.000202051	0.0253651	1.76899	0.078233	-1.03761	0.02026436	1.47238	0.0024655	1.70488	0.00874539	2.06463	0.0391688
CRNF17	0.00021714	0.00000000	-1.07136	0.000000	0.0000000	1.44641	0.0017435	1.44641	0.0017435	1.5007139	1.5007139	1.38518
TRDK	0.000225575	0.00213519	1.52139	0.0013761	1.51166	0.00025575	1.56741	-1.06644	0.662628	-1.06644	0.662628	1.03688
DCLB1D	0.00022622	0.0101759	1.96776	0.289785	-1.05735	0.0061913	-1.61371	0.0031225	-2.00861	0.0204186	-1.37539	0.0065522
RALDZD1	0.000226281	0.00000000	-1.07136	0.000000	0.0000000	1.44641	0.0017435	1.44641	0.0017435	1.5007139	1.5007139	1.38518
HEG1	0.000230811	0.0170726	-1.03925	0.00042617	-1.22175	0.0202737	-2.25755	-0.0074256	-1.17561	0.0194386	-1.84778	0.0377746
UNKNOWN	0.000232772	0.0311512	-1.11511	0.071347	1.408	0.407757	1.02033	0.00070208	1.24032	0.0191555	1.13779	0.064542
FCZB1G	0.000233571	0.00000000	-1.07136	0.000000	0.0000000	1.44641	0.0017435	1.44641	0.0017435	1.5007139	1.5007139	1.38518
BTG3	0.00023571	0.0292327	1.23261	0.0099314	1.00175	0.0195225	-1.49325	0.0162573	-1.48036	0.0249093	-1.48036	0.0374539
RG2	0.00023591	0.023738	3.9777	0.366924	-1.22759	0.159816	-2.0389	0.00624704	-4.88297	0.00336624	-8.11014	-1.00037
METAP2	0.00023784	0.0314184	-1.27177	0.142578	-1.04477	0.151369	0.09635	0.00562023	1.21791	0.000233213	1.39423	0.00760463
LB1	0.00023822	0.0544299	1.36006	0.161228	-1.12122	0.00399376	-1.59278	0.0191229	-1.52492	-1.26829	-0.483309	-1.42059
NHSL2	0.00023993	0.0825481	1.21507	0.00278193	-1.4211	0.0191935	-3.57467	0.0177345	-1.72787	0.0559789	-4.34634	0.0319714
ZSCAN2	0.000239673	0.0555105	1.12146	0.0265714	-1.12739	0.00196066	0.55428	0.00196066	0.55428	0.0147404	-1.6324	0.00791766
ITPK	0.00023984	0.12106	-1.04749	0.53431	1.05308	0.0178985	1.54502	0.206548	1.10309	0.00998595	1.61838	0.00623089
MEM1B	0.000241673	0.132324	1.09556	0.294375	1.08926	5.08E-05	1.69342	0.0654412	-1.0012	0.0202648	1.55428	1.55428
TKBP1	0.00024268	0.0023956	1.87071	0.501156	-1.09357	0.0241556	-1.9014	0.0160235	-1.97631	0.00719592	-3.48223	0.00995403
NHNP1L	0.000242837	0.0320315	1.30121	0.00207277	-2.91008	0.0311274	-3.13523	0.0431311	-3.92026	0.0299005	-4.30976	-1.07377
CLC1	0.00024302	0.0190335	1.05302	0.0791307	0.0168467	1.14666	0.0371992	1.20289	0.0013852	1.20289	0.0013852	1.20289
TOP1MT	0.000244073	0.0373826	-1.24591	0.0635893	-1.30778	0.0327802	1.6036	0.0233519	1.62929	0.0148462	1.99794	0.00840042
CDC4	0.000246097	0.00491813	1.74567	0.0019718	1.10157	0.0167672	-1.67878	0.00379304	-2.14548	0.00403491	-2.9625	0.020625
CDC4A	0.000246866	0.0132734	1.60498	0.0132734	1.02929	0.0191411	-1.40298	0.0191411	-1.63211	0.00705536	-1.93678	-1.19217
FCBP	0.000248274	0.10171	-1.25196	0.029132	2.14024	0.0124866	3.45584	0.0047738	3.01753	0.0180877	4.23559	0.0453866
GGTP3	0.000249808	0.00000000	1.09489	0.00886336	-1.39152	0.0354869	-1.39155	0.01499704	-1.52329	0.00126377	-1.52329	0.0099776
NKX1	0.000249819	0.00000000	1.09489	0.00886336	-1.39152	0.0354869	-1.39155	0.01499704	-1.52329	0.00126377	-1.52329	0.0099776
ARHGAP18	0.000250961	0.12805	-1.09446	0.166281	-1.18196	0.00299012	1.84043	0.146122	1.29384	0.00906876	1.60002	0.0202506
SYT11	0.000252172	0.010633	2.73681	-1.57767	-1.57767	0.101028	-1.57933	0.0176724	-3.17476	0.0257945	-4.32201	0.962214
TRBP1	0.00025392	0.00000000	-1.07136	0.000000	0.0000000	1.44641	0.0017435	1.44641	0.0017435	1.5007139	1.5007139	1.38518
GATM	0.000254382	0.0044068	-1.60419	0.103338	1.43981	0.0785185	1.66718	0.00645667	2.30753	0.00429564	2.67448	0.0381517
PRP1	0.00025739	0.0302019	1.23368	0.0447407	-1.79574	0.0153324	-6.8196	0.0262762	-2.11538	0.0191516	-1.61221	-3.86873
RFP25	0.000259379	0.00000000	-1.07136	0.000000	0.0000000	1.44641	0.0017435	1.44641	0.0017435	1.5007139	1.5007139	1.38518
UNKNOWN	0.000260177	0.0203375	1.25458	0.450187	-1.05915	0.00887356	1.5803	0.0692711	-1.32879	0.0881076	1.26864	0.00127073
PELL1	0.000261168	0.0107768	1.44276	0.0698226	1.42619	0.00116701	2.3008	0.0080821	-1.01162	0.0278541	1.59437	0.0294242
UNKNOWN	0.000261604	0.00000000	-1.07136	0.000000	0.0000000	1.44641	0.0017435	1.44641	0.0017435	1.5007139	1.5007139	1.38518
AK5	0.000262019	0.0143577	-4.69939	0.124661	1.8169	0.0384468	0.833465	0.00166457	1.58383	0.0148797	18.0244	0.112196
STR3A8	0.000261962	0.470914	1.12635	0.0933295	-2.44753	0.0141034	-18.9712	0.114817	-2.74411	0.0225999	-19.1663	0.00396569
OPR125	0.000262005	0.00000000	-1.07136	0.000000	0.0000000	1.44641	0.0017435	1.44641	0.0017435	1.5007139	1.5007139	1.38518
GKNT4	0.000262768	0.347567	-1.15561	0.990765	-1.00243	0.0101718	4.41521	0.20347	1.15281	0.017741	5.10226	0.0266986
PLK4	0.000270402	0.0032455	1.45764	0.0031515	-2.21279	0.00487623	-4.62896	0.0255336	-3.22545	0.0117963	-6.74443	0.0116667
C7orf44	0.00027114	0.073033	1.01435	0.0294964	0.0294964	0.0294964	1.41087	0.00000000	1.4038	0.0038283	0.043471	1.24912
ABI3	0.000271914	0.0143577	-4.69939	0.124661	1.8169	0.0384468	0.833465	0.00166457	1.58383	0.0148797	18.0244	0.112196
UNKNOWN	0.000272757	0.496003	-1.03232	0.101239	-1.17777	0.0017798	-1.63173	0.0124227	-1.14082	0.002116035	-1.58094	0.0439926
INPFA	0.000273473	0.0195565	1.39256	0.0329797	1.32448	0.0038438	0.0038438	0.0038438	1.97517	0.0038438	1.97517	0.0038438
NJUM1	0.000273742	0.0696486	-1.07559	0.0224224	1.12604	0.0319599	1.2149	0.0252211	1.21116	0.00900053	1.30674	0.13473
LDLRAP1	0.00027625	0.11118	-2.0467	0.0193153	1.415	0.0179851	2.37171	0.0418662	1.7046	0.0257716	2.85712	0.0183807
NCR1	0.000276344	0.00000000	-1.07136	0.000000	0.0000000	1.44641	0.0017435	1.44641	0.0017435	1.5007139	1.5007139	1.38518
PPP1R16B	0.000279294	0.129842	1.16973	0.0137779	-2.03817	0.0210405	-2.49887	0.0263138	-2.3841	0.0294049	-2.92299	0.069058
CHD9	0.000279931	0.254395	0.354395	0.0166952	-1.25135	0.0153329	-1.5292	0.0432084	-1.34702	0.0162825	-1.64612	0.0158635
PRKSI1	0.000280115	0.00000000	-1.07136	0.000000	0.0000000	1.44641	0.0017435	1.44641	0.0017435	1.5007139	1.5007139	1.38518
EIF1AX	0.000281148	0.00562772	1.26519	0.0387269	1.06627	0.367722	1.05542	0.00763348	1.34904	0.00767382	1.860297	-1.01029
ARHGAP19	0.000281989	0.012783	1.75225	0.152726	-1.31471	0.0205522	-2.52609	0.00407281	-2.30299	0.0143144	-4.42634	0.10009
TAF9	0.000282008	0.0169044	1.74967	0.0169044	1.74967	0.0169044	1.74967	0.0169044	1.74967	0.0169044	1.74967	0.0169044
CRK186	0.000284026	0.0190976	-2.29245	0.188533	-1.25766	0.0695473	-1.29346	0.00387844	1.8228	0.00931462	1.77233	0.498195
BEND5	0.000285001	0.0315387	-1.36523	0.280231	1.24888	0.00210697	2.47705	0.0382196	1.70501	0.00631391	3.37328	0.0110441
TRPAK2	0.000285917	0.00000000	-1.07136	0.000000	0.0000000	1.44641	0.0017435	1.44641	0.0017435	1.5007139	1.5007139	1.38518
FAM153C	0.000288111	0.125067	-1.48591	0.0180384	1.35104	0.0312759	-1.24074	0.0305747	2.02103	0.0169101	3.29727	0.0443718
GTPBP1	0.000289568	0.0299996	1.14716	0.0587907	-1.7451	0.0034261	-2.20418	0.035112	-1.34738	0.00129468	-1.43365	0.035228
ENP2	0.00029003	0.00000000	-1.07136	0.000000	0.0000000	1.44641	0.0017435	1.44641	0.0017435	1.5007139	1.5007139	1.38518
KCTD12	0.00029434	0.00771714	-1.57605	0.0512504	1.14083	0.043797	2.28979	0.00130735	1.78801	0.0169101	3.60725	0.0488003
MBD4T1	0.000297813	0.00038784	1.83845	0.0288904	-1.59938	0.0064536	-2.48837	0.00918767	-2.94037	0.0136203	-4.57474	0.173106
PTPNB3	0.000299222	0.00000000	-1.07136	0.000000	0.0000000	1.44641	0.0017435	1.44641	0.0017435	1.5007139	1.5007139	1.38518
LDNB	0.000302582	0.119173	-1.11997	0.487175	1.14003	0.0026819	2.06919	0.127475	1.2768	0.00292002	2.31744	0.0345872
OCM	0.000303243	0.889032	1.01035	0.489878	1.17453	0.0079928	2.28912	0.437306	1.1625	0.0104886	3.91909	0.0107688
KCNMB5	0.000304525	0.00000000	-1.07136	0.000000	0.0000000	1.44641	0.0017435	1.44641	0.0017435	1.5007139	1.5007139	1.38518
ILSR	0.000306473	0.000425002	1.27573	0.0086405	-2.7395	0.0847807	-1.63759	0.00534571	-3.49486	0.0431312	-2.08912	0.113002
ILR	0.000306473	0.000425002	1.27573	0.0086405	-2.7395	0.0847807	-1.63759	0.00534571	-3.49486	0.0431312	-2.08912	0.113002
UNKNOWN	0.000307483	0.00000000	-1.07136	0.000000	0.0000000	1.44641	0.0017435	1.44641	0.0017435	1.5007139	1.5007139	1.38518
UBASH3B	0.000308744	0.0638312	-1.16409	0.174246	1.14205	0.00885522	1.19633	0.0120336	1.32945	0.0156464	1.8217	0.0635385
UNKNOWN	0.000309619	0.0170679	1.34402	0.0273599	1.06496	0.0098967	1.5842	0.0203786	1.20062	0.0236104	1.65015	1.051

PPP2R3C	0.00073878	0.0691134	1.174455	0.00669284	-1.1919	0.000073042	-1.2655	0.037263	-2.07576	0.0289228	-2.20402	0.0674855	-1.06179
UNKNWNV	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	-0.261118	0.00255958	-0.00000000	0.00000000	-0.00000000	0.00000000	-2.68209
X12or23	0.00074068	0.0107203	1.54155	0.270991	1.13108	0.315728	1.04844	0.0115613	1.71409	0.0111101	1.58885	0.542035	-0.78833
DGKA	0.000746754	0.0651991	1.157676	0.591232	-1.0639	0.0232115	1.39471	0.373707	1.08832	0.0123087	1.61489	0.014388	1.48384
PLD3	0.00075706	0.00000000	0.00000000	0.00000000	-0.00000000	0.00000000	-0.00000000	0.00000000	0.00000000	0.00000000	-11.6271	0.0440823	-8.15785
PLD2	0.000749291	0.06574051	1.18664	0.0023113	1.2187	0.370989	1.02215	0.314731	1.06276	-1.02215	1.047146	0.00210036	-1.2457
TCEA5	0.000750085	0.132447	-1.2415	0.0485313	1.36901	0.0219086	3.48335	0.0209511	1.69838	0.0318984	4.32457	0.0661447	2.54629
C4ORF324	0.000752671	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	-0.233147	0.00000000	-0.233147	0.00000000	-0.233147	0.00000000	-0.233147
SH3BP1	0.000759076	0.162926	1.16295	0.136569	1.16456	0.0125835	1.64307	0.0726539	1.64307	0.00903962	1.51132	0.100556	1.41132
UNKNWNV	0.000759862	0.168497	-1.83333	0.0199748	1.21628	0.0648152	2.11626	0.0169007	3.99852	0.0126445	3.8798	0.038705	-1.02312
TOX1	0.00076185	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	-1.11321	0.00000000	0.00000000	0.00000000	-1.081	0.020518	1.020518
PAK1	0.000761302	0.00514123	-1.96047	1.16054	1.30534	0.999919	1.00025	0.00430618	1.00025	0.00378761	1.56092	0.0732972	1.56092
UNKNWNV	0.000761593	0.0030585	-1.99901	0.544012	1.14954	0.130622	1.51364	0.0172956	2.29794	0.00715727	3.02578	0.00879112	1.31674
LRRAP4P	0.00076599	0.0134905	1.83643	0.169596	1.85136	0.0420116	-21.386	0.045622	0.0306111	0.0306111	0.0306111	0.0277327	-11.4779
ATCAY	0.000769543	0.0063701	-1.21683	0.000646891	1.33185	0.366099	-1.06107	0.0369703	-1.09453	0.110798	-0.38716	0.0370176	1.54449
RARB	0.000769817	0.01157	1.11632	0.228175	-1.03413	0.117747	-1.10375	0.0112812	-1.15442	0.0230477	-1.28214	0.0674434	-1.06732
GGLT3	0.000771613	0.115663	1.12537	0.557597	-1.03688	0.02042022	-1.23947	0.0313229	-1.16687	0.0146691	1.36219	0.0646056	-1.19539
CSH5	0.000771853	0.0191212	1.15917	0.156601	1.05974	0.156601	1.05974	0.0071792	1.30324	0.0071792	1.107054	0.0384632	1.23242
VDR2	0.000776434	0.0037146	-1.22421	0.665738	1.00389	0.111903	-1.02356	0.0019774	1.22897	0.0338658	1.19603	0.150365	-1.02754
PP4R4	0.00077616	0.0071415	-1.28555	0.108641	-1.02207	0.0314078	1.42793	0.107739	1.22297	0.0244504	1.18371	0.0373149	1.50229
WIPF1	0.000783381	0.0471522	-1.18951	0.0430397	1.34747	0.0269818	3.20509	0.0042975	1.60148	0.0292487	3.89249	0.0756342	2.3796
USH2A	0.000787702	0.0125808	1.35852	0.0797227	1.15982	0.0283286	1.21113	0.0604767	-1.17132	0.0844411	-1.1217	0.069873	1.04424
GPR153	0.000790992	0.0023669	-2.01558	0.452274	-1.12549	0.374422	1.18266	0.0045917	1.79884	0.0143395	2.30375	0.050995	1.32516
UBAP3	0.00079438	0.9822548	1.00148	0.21091	1.18317	0.00570433	-1.70471	0.225564	-1.9605	0.00555473	-1.70887	0.0513431	-1.4408
SAMD3	0.000797309	0.441774	-1.02801	0.566135	-1.05032	0.0284806	-1.56142	0.0157045	-1.0237	0.0224899	-1.52183	0.0158858	-1.48661
PPAD4	0.00081386	0.00440409	-1.06822	0.0309456	-1.12736	0.0042996	1.12736	0.0042996	1.59948	0.00414702	1.7965	0.26011	1.25884
ABL1	0.000814337	0.16865	1.10264	0.48625	-1.05171	0.011589	-1.61152	0.0044766	-1.15967	0.0271034	-1.77899	0.0596578	-1.55226
GCLT1B	0.000814629	0.019715	-1.17415	0.0261273	-1.08382	0.220176	-1.04003	0.0049495	1.06905	0.0305026	-1.12863	0.0152681	-1.06604
WIPF1	0.00081502	0.019715	-1.17415	0.0261273	-1.08382	0.220176	-1.04003	0.0049495	1.06905	0.0305026	-1.12863	0.0152681	-1.06604
UNKNWNV	0.000820606	0.00070162	-1.97554	0.0290031	1.36908	0.133105	1.64239	0.00215203	2.70876	0.0306927	3.24954	0.435133	1.19963
ZBT1	0.000820287	0.0344767	1.25961	0.939008	1.00428	0.00000000	1.01449	0.000583545	-1.25426	0.00747202	-1.24162	0.0117108	1.01019
BRM43	0.00082694	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
HCN3	0.000829418	0.0678271	1.20889	0.104409	-1.17387	0.0899191	-1.18552	0.0164499	-1.41907	0.000273089	-1.43316	0.051604	-1.00993
MLL1	0.000829432	0.0627169	1.32693	0.201876	-1.1995	0.0143674	-1.95004	0.0730993	-1.57908	0.0255399	-1.53767	0.081862	-1.44443
CHORD4	0.00083071	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
APBA2	0.000830796	0.0170104	-1.55431	1.01482	1.02462	0.0239041	3.26437	0.00945143	2.21437	0.021907	0.07384	0.122349	2.29132
ACBD4	0.000834876	0.0370875	-1.23368	0.70104	1.10487	0.0044963	1.29896	0.0319149	1.25899	0.0198135	1.39241	0.125309	1.10782
UNKNWNV	0.00083564	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	-2.20274	0.00000000	-2.20274	0.00000000	-2.20274	0.0466124	-2.20274
RPS3A	0.000835154	0.082882	-1.19908	0.526035	-1.03378	0.00424618	1.20865	0.0300389	1.23934	0.0169163	1.44928	0.066458	1.16984
DCD1	0.000835781	0.0308997	1.26535	0.272389	-1.12978	0.0279152	1.71172	0.0174189	-1.45217	0.126258	1.33172	0.00069062	1.39838
MROX3	0.00083753	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	1.21759	0.00000000	1.66865	0.0186289	1.95831	0.00000000	1.95831
UTP20	0.000839226	0.0144448	-1.33355	0.703185	-1.02937	0.150868	1.24518	0.00448263	1.2955	0.013376	1.6605	0.0186587	1.28174
SPCS2	0.000839742	0.0117832	1.08128	0.0054563	-1.14168	0.007835	-1.40535	0.00000000	-1.23448	0.0263024	-1.15198	0.00676721	-1.20095
HSR7	0.000840916	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	1.42645	0.00000000	1.42645	0.0338767	1.42645	1.19373	1.19373
NEK3	0.00084072	0.675759	-1.02538	0.0242004	-1.89769	0.0349709	-1.77068	0.0393372	-1.87022	0.0280815	-1.72685	0.503251	-1.07173
C16orf74	0.000840769	0.150518	-1.23781	0.0084638	1.51285	0.0498952	1.91854	0.0163523	1.87262	0.0267633	2.37478	0.17099	1.28816
PRKDI	0.00084398	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.8795139	0.00000000	0.8795139	0.0219336	0.26356	0.024836	-3.44445
KIAA0040	0.000849772	0.0127152	-1.78653	0.0573431	-1.16264	0.0545414	-1.69252	0.0224168	1.53584	0.0143812	1.05331	0.007829	-1.45811
KIAA1998	0.000850232	0.0117182	-1.61777	0.191451	1.072	0.0253345	1.57372	0.0051596	1.2733	0.0306011	1.81411	0.0270252	1.42474
KORD3	0.000850234	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	-1.45443	0.00000000	-1.45443	0.0119249	-1.62819	0.162819	-1.62819
DMXL2	0.000852819	0.0149403	-1.45828	0.115016	-1.15385	0.135787	1.32455	0.0380043	1.28834	0.0113328	1.93156	0.056684	1.52833
VNGL1	0.000853003	0.0349405	1.07365	0.0220727	-1.73905	0.0651147	-1.69176	0.0137812	-1.86713	0.0306201	-1.81636	0.0679597	1.02795
MEG2	0.000853033	0.0143174	-1.45828	0.115016	-1.15385	0.135787	1.32455	0.0380043	1.28834	0.0113328	1.93156	0.056684	1.52833
KLF6	0.000858276	0.0197142	1.216284	0.146202	-1.25459	0.13903	-1.47524	0.0352004	-2.71414	0.0110528	-1.39188	0.0121678	-1.17965
LRP10	0.000859226	0.00897803	1.143	0.091196	-1.03328	0.0702507	-1.15738	0.00000000	-1.11014	0.0146342	-1.32273	0.0141949	-1.17965
GALT1	0.000859355	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	1.23095	0.00000000	1.4668108	0.00000000	1.4668108	-1.17696	1.4668108
SLC22A17	0.000859619	0.161901	-1.57915	0.0358696	-1.36991	0.0035326	2.66651	0.0657385	2.16328	0.0183057	4.21081	0.0533111	1.84649
ALOX5AP	0.000859794	0.2006	-1.2352	0.0088599	-1.36399	0.0271138	-4.20016	0.0474545	-2.56151	0.0207969	-4.00307	0.418584	-1.94649
KRTAP5-2	0.000860398	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	1.42748	0.00000000	1.42748	0.00000000	1.42748	0.00000000	1.42748
CD9	0.000860398	0.0096884	1.13199	0.242135	-1.07219	0.0299143	-1.11117	7.23E-05	-1.21371	0.0101859	-1.25784	0.0276611	-1.03636
C2OR9	0.000860971	0.0116507	1.74156	0.33532	-1.07472	0.108097	-1.26798	0.0176869	-1.8717	0.0369249	-2.20827	0.244654	-1.17982
UNKNWNV	0.000861364	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.84192	0.00000000	0.84192	0.00000000	0.84192	0.062829	0.84192
TWISTNB	0.000861564	0.0016886	-1.31036	0.0143782	-1.12082	0.26994	1.09735	0.0325225	1.16911	0.0359175	1.43793	0.0490906	1.22993
LYRM8	0.000862454	0.0318289	-1.66566	0.128405	-1.09808	0.0043063	1.91739	0.0153086	2.48678	0.0153086	2.48678	0.25223	1.30217
KLHL3	0.000862528	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	1.95233	0.00000000	1.95233	0.0130323	1.95233	0.139811	1.95233
OSBP1	0.00086275	0.0121174	1.79924	0.0682216	-1.42369	0.132332	-1.3828	0.0248846	-2.56156	0.00237137	-2.49798	0.82603	1.02857
EEF2K	0.												

RASA3	0.00120074	0.3752006	1.05081	0.739383	-1.00898	0.0112285	1.24251	0.48191	-1.04145	0.0627349	1.35563	0.0229787	1.41183
DEIND3	0.00120145	0.0052262	-1.25124	0.07474	-1.23857	0.0201223	-4.10024	0.149255	-1.31224	0.334825	-2.35485	-0.0000000	-2.37538
C20nr11	0.00120412	0.279635	-1.0388	0.169794	1.07686	0.0275999	1.12974	0.042696	1.11864	0.0032435	1.17357	0.0788379	1.04911
C11nr63	0.00120499	0.827048	1.01234	0.0372193	-1.44819	0.0468034	-1.80221	0.0139038	-1.46607	0.0202144	-1.82446	0.184711	-1.24446
N1nr8	0.00120755	0.004988	-1.03724	0.261226	-1.02075	0.0017772	1.16889	0.01228	-1.22247	0.00492518	1.26819	0.0340489	1.15888
ACS2	0.00121005	0.0484191	-1.47133	0.17327	1.16416	0.107731	1.32528	0.00463834	1.71286	0.0164346	1.59009	0.325111	1.16185
LARS	0.00121011	0.130474	-1.09914	0.177835	1.13891	0.0473687	1.49455	0.0178209	1.25182	0.0252542	1.64272	0.0126044	1.31226
ZC30H124	0.00121056	0.0299327	1.25214	0.0260222	-1.11206	0.0013542	-1.36423	0.00234967	-1.30246	0.0173345	-1.89669	0.1311673	-1.17177
NE01	0.00121086	0.808731	1.0506	0.034756	-1.54764	0.0433686	-6.83842	0.00150342	-1.62594	0.038164	-6.82252	0.0676237	-2.35055
PEA15	0.00121707	0.17974	1.30306	0.0413029	-1.38624	0.0237834	-1.62447	0.0422999	-1.80635	0.00988189	-2.11679	0.28932	-1.17186
NR01	0.00122695	0.002844	-1.03724	0.177283	-1.01945	0.110435	-1.23668	0.0132542	-1.22247	0.00492518	-1.26194	0.324246	-1.03242
ARMGEF12	0.00122876	0.0608744	-1.35107	0.0465761	-1.20907	0.0511663	-1.95085	0.026781	-2.03683	0.0258015	-3.46751	0.125773	-1.46425
DPVSL2	0.00122983	0.952752	-1.00471	0.0588751	-1.80417	0.055414	-2.00831	0.0212549	-1.79672	0.0215727	-1.9989	0.0743331	-1.11315
ARMGAP10	0.00123158	0.069162	1.00308	0.0494284	-1.32002	0.0704296	-1.30302	0.00434839	-1.36104	0.00600062	-1.34352	0.326114	-1.01385
FBXW8	0.00124042	0.00632701	-1.41481	0.0434742	-1.15129	0.458356	1.07872	0.011225	1.62975	0.0170083	1.52619	0.60222	-1.06785
PLANC1	0.00124052	1.25222	0.239643	1.02009	0.00961872	1.17628	-2.78589	0.0272897	-4.46251	0.0223987	-3.05226	0.0877826	-2.3644
UNKNOWN	0.00125143	0.0214232	1.39351	0.00596397	1.20209	0.00981872	1.4511	0.0911396	-1.19924	0.686997	1.04133	0.0549019	1.20715
MRM1	0.00125351	0.30237	-1.10964	0.015999	1.15419	0.0076601	1.45541	0.0498077	1.28074	0.0411156	1.61499	0.0421268	1.26999
MPZL	0.00126262	0.0186778	-1.51743	0.2399759	1.19487	0.108487	-1.15954	0.0469143	1.43695	0.00737328	1.35542	0.401342	-1.06015
HCC_2039148	0.00126341	0.00306181	-1.35107	0.146325	1.16418	0.0785137	-1.02344	0.0186765	1.5279	0.0036962	1.32012	0.00508988	-1.19148
PTK2	0.0012669	0.0143399	-1.81875	0.509117	-1.21728	0.0257068	2.29919	0.185636	1.49411	0.00554016	4.18165	0.0595478	2.79876
SPRE2	0.0012685	0.0689151	1.2205	0.052614	-1.02559	0.0126693	-1.3232	0.13642	-1.25294	0.0116281	-1.16496	0.0101593	-1.28983
REPE4	0.00127599	0.13379	1.13302	0.226846	-1.00023	0.0307974	-1.59331	-1.05766	-1.18006	0.0155566	-1.70739	0.0639484	-1.07579
C16nr67	0.00128485	0.0497273	-1.21116	0.00781918	1.23093	0.0636366	1.23343	0.0177588	1.49085	0.0516051	1.49388	0.96982	1.02023
TRAF6	0.00128511	0.00128511	1.17815	0.112923	-1.02569	0.0017725	-1.07075	0.374655	-1.63346	0.0160497	-1.28151	0.0811863	-1.08427
FANCA	0.00128651	0.281405	1.1806	0.0144841	-1.36411	0.0161141	1.62692	0.0768486	-1.61046	0.0118582	-1.52074	0.16425	-1.19266
PLAHE	0.00128973	0.020495	-1.14545	0.204962	-1.08948	0.00784555	-1.2848	0.103392	-1.24784	0.0212472	-1.47168	0.0660236	-1.17928
TRFKA2	0.00129394	0.0137739	1.46682	0.288785	-1.1049	0.104986	-1.29394	0.0302208	-1.82401	0.0095077	-1.8048	0.309326	-1.1729
PTK7	0.00130743	0.0052263	1.11295	0.239956	1.23093	0.0007725	1.60793	0.105955	-1.63346	0.0091163	1.44413	0.0811863	1.04686
CMTM1	0.00131836	0.0142547	-1.05241	0.0595868	-1.08226	0.0216476	-1.27834	0.332956	-1.02836	0.0211593	-1.21486	0.093284	-1.18118
PC8A	0.00131981	0.3752006	1.11049	0.0886813	-1.31226	0.0262073	-1.80961	0.00270138	-1.45736	0.0120738	-1.78745	0.0637658	-1.2265
UNKNOWN	0.00132264	0.0376587	1.42471	0.0265874	1.05618	0.0069718	1.11814	0.0385277	-1.53577	0.0412338	-1.2759	0.180178	1.04686
DMPK	0.00132266	0.137842	1.15891	0.00327226	-1.14356	0.0388892	-1.37171	0.0550426	-1.32529	0.0224807	-1.58969	0.110538	-1.19951
CNTNAP3	0.00132325	0.00152131	1.65782	0.2399759	-1.08732	0.0671935	1.40783	0.0064067	-1.80656	0.232668	-1.17177	0.0816155	1.53444
CNTNAP5	0.00132325	0.00152131	1.65782	0.2399759	-1.08732	0.0671935	1.40783	0.0064067	-1.80656	0.232668	-1.17177	0.0816155	1.53444
ZSCAN23	0.00133158	0.0143943	-1.94941	0.153067	1.21039	0.562303	1.12488	0.0097914	1.23955	0.0436762	1.51205	0.341305	-1.07602
UNKNOWN	0.00133319	0.0386031	-1.12509	0.0364534	1.08128	0.0638498	1.07941	0.0305506	1.21654	0.0471477	1.21443	0.919477	-1.00174
SCARNA17	0.00133477	0.0054687	1.42471	0.239956	1.23093	0.0144153	1.20883	0.0811863	1.27754	0.0141134	-1.25498	0.0145629	-1.00329
USP51	0.00134484	0.0941431	-1.21813	0.423272	1.07581	0.106703	1.26862	0.0076129	1.31047	0.00201902	1.54335	0.022995	1.17923
C16nr80	0.00135338	0.0061058	1.17007	0.00733228	1.16468	0.002224	-1.01976	0.171915	-1.00463	0.0571616	-1.18319	0.0539752	-1.18789
UNKNOWN	0.00135372	0.0054487	1.65782	0.239956	-1.08732	0.0671935	1.40783	0.0064067	-1.80656	0.232668	-1.17177	0.0816155	1.53444
UNKNOWN	0.00135372	0.0054487	1.65782	0.239956	-1.08732	0.0671935	1.40783	0.0064067	-1.80656	0.232668	-1.17177	0.0816155	1.53444
MYO15B	0.00135442	0.0054487	1.65782	0.239956	-1.08732	0.0671935	1.40783	0.0064067	-1.80656	0.232668	-1.17177	0.0816155	1.53444
DK2	0.00135476	0.160219	1.60929	0.028422	1.04952	0.0485262	1.60181	0.02908	1.67606	0.024247	-1.04196	0.0469517	1.60787
SEPP1	0.00137084	0.0480926	-1.20244	0.0383309	-1.26523	0.067379	-1.78236	0.00221529	-1.58341	0.0263367	-1.7878	0.112605	-1.17601
LRNPNF1	0.00137293	0.0000189	1.72261	0.0117768	1.8625	0.0293243	2.10386	0.0314763	2.28469	0.0297399	3.5821	0.29314	1.25043
STOM	0.00137596	0.0052263	1.11295	0.239956	-1.08732	0.0671935	1.40783	0.0064067	-1.80656	0.232668	-1.17177	0.0816155	1.53444
MEST	0.00137963	0.0057128	-3.37228	0.28702	1.72999	0.14307	1.81005	0.0358158	1.53399	0.0100097	6.10399	0.83344	1.04628
UNKNOWN	0.00138157	0.0083052	1.30348	0.0284349	1.01133	0.0931601	1.18941	0.00722546	-1.88899	0.009599	-1.14464	0.089903	1.15632
SPOVE1	0.00138201	0.0171947	1.17524	0.0096954	1.2511	0.0096954	1.22145	0.19456	1.67576	0.10332	0.00341578	1.06564	1.06564
STK3	0.00138267	0.801619	-1.02938	0.0261143	-1.3899	0.0258384	-2.10413	0.158291	-1.35023	0.002516	-2.04407	0.101916	-1.51387
TYMP	0.00138505	0.069974	1.30768	0.562735	-1.04507	0.117404	-1.12441	0.0123833	-1.36661	0.0122516	-1.47037	0.0198889	-1.07592
EDARAD	0.00138816	0.0098763	1.09873	0.286824	1.12297	0.48986	-1.31293	0.0029738	-1.60549	0.024433	-4.06549	0.069647	-1.0678
C16nr22	0.00139445	0.074631	-1.01865	0.0028661	1.45645	0.0518835	1.33643	0.0113819	1.52334	0.0986332	1.38135	0.212996	-1.11899
GRAP	0.00139683	0.173963	-1.22182	0.135905	1.2581	0.0142422	1.76077	0.0044539	1.5373	0.0286666	2.15152	0.145291	1.39954
CBFA2T2	0.00139919	0.694492	-1.01012	0.0306966	-1.26099	0.0430987	-1.39065	0.0026208	-1.27376	0.0521436	-1.3219	0.194071	-1.03779
NANOS2	0.00140626	0.0015875	1.29	0.0509493	1.182	0.217668	1.08299	0.14075	-1.09138	0.0201642	-1.19115	0.0278102	-1.09142
SV2A	0.00141329	0.0274877	1.47538	0.0383476	-1.43126	0.077948	-1.47277	0.0263989	-1.21166	0.00719354	-2.17289	0.890612	-1.029
SNORD115-17	0.00141436	0.0593264	1.40145	0.569732	1.01024	0.0227443	1.37049	0.0523294	-1.38725	0.646537	-1.02259	0.0212422	1.3566
SNORD115-17	0.00141436	0.0593264	1.40145	0.569732	1.01024	0.0227443	1.37049	0.0523294	-1.38725	0.646537	-1.02259	0.0212422	1.3566
CWH43	0.00141731	0.0115094	2.03157	0.029757	-1.01127	0.0349872	1.95887	0.0474444	-2.05447	0.181904	-1.03711	0.0528498	1.89095
MYO1C	0.00141785	0.0338759	1.4657	0.0467786	-1.06866	0.279955	-1.31683	0.00411528	-2.34334	0.0380935	-1.91823	0.132464	1.22162
COXA	0.00142225	0.142316	1.08282	0.178119	-1.11796	0.0370207	-1.18964	0.0143374	-1.21033	0.00119094	-1.26628	0.273874	-1.04623
SNORA55	0.00142488	0.00607801	-1.20298	0.018462	-1.02757	0.0170495	-1.13982	0.0129435	1.17041	0.162899	1.05516	0.132083	-1.10923
PELO	0.00142679	0.0107182	2.37058	0.0371392	-1.96375	0.0857317	-3.18988	0.00196105	-4.65233	0.0428704	-6.55233	0.170736	-1.62382
CTD1D5	0.00143139	0.576816	-1.06878	0.174537	1.03792	0.0119893	1.5016	0.00906339	1.09893	0.0094289	1.58986	0.0215513	1.44673
IGF1R	0.00143265	0.00274385	-2.38855	0.00119277	1.16204	0.102018	1.96741	0.00169528	1.52525	0.0338947	4.69926	0.786129	-1.11832
AKNA	0.00143617	0.507346	-1.02803	0.33439	-1.13091	0.00183883	-1.65919	0.340247	-1.10007	0.00716269	-1.06135	0.	

Supplementary Table 3 Genes progressively up and downregulated with T cell differentiation

Gene Symbol	p-value(TSCM vs. TN)	Fold-Change(TSCM vs. TN)	p-value(TSCM vs. TCM)	Fold-Change(TSCM vs. TCM)	p-value(TSCM vs. TEM)	Fold-Change(TSCM vs. TEM)	p-value(TN vs. TCM)	Fold-Change(TN vs. TCM)	p-value(TN vs. TEM)	Fold-Change(TN vs. TEM)	p-value(TCM vs. TEM)	Fold-Change(TCM vs. TEM)
IL18R1	-2.21722	1.01462	0.01722	1.01462	0.01722	1.01462	0.01722	1.01462	0.01722	1.01462	0.01722	1.01462
NRCAM	0.00183407	-8.8258	0.259817	1.92422	0.042739	2.54878	0.0140954	16.9828	0.0265602	22.495	0.384196	1.32458
SULT1B1	0.0133697	-0.00719	0.189641	1.83317	0.0590558	4.04532	0.00307328	9.17902	0.00340866	20.2557	0.006361	2.02673
DSG1	0.178677	-1.39142	0.12244	1.96372	0.00361216	14.3569	0.0140565	2.73236	0.0138929	19.7665	0.0120318	1.73107
AKS	0.0143077	-4.63937	0.194661	1.8169	0.0634649	3.85349	0.00166457	6.85381	0.0047897	18.0244	0.011011	2.11101
SLC16A10	0.0577322	-2.69776	0.0570946	2.08886	0.0221397	4.68649	0.0119837	5.65355	0.0173187	12.6443	0.017645	2.23446
UBE2E2	0.0363838	-2.75872	0.0251461	2.85764	0.0187504	4.51989	0.0094566	7.88343	0.00655522	12.4666	0.027629	1.58137
NOX1	0.0287452	-2.36587	0.045117	2.40451	0.016357	4.53938	0.00573983	6.58381	0.0141004	10.4982	0.0070394	1.09738
LEF1	0.0150759	-1.23562	0.0558569	1.25687	0.00825779	7.34183	0.00532898	1.55204	0.00070699	9.0717	0.0170306	8.54502
MAL	0.10662	-1.40875	0.0216165	1.63099	0.0195328	6.26287	0.00851417	2.29765	0.022314	8.9199	0.0051989	3.83871
CDCA7L	0.130145	-1.65995	1.84378	0.0272027	5.18537	0.0261357	3.30659	0.013959	8.60746	0.066716	2.81235	0.066716
LRRN1	0.0032955	-2.97153	0.0085330	1.81412	0.0243989	2.89665	0.00059173	4.84848	0.00059173	7.78848	0.0035411	1.59872
LASS6	0.000116172	-1.6725	0.116622	1.020752	4.6087	0.0378274	3.0574	0.011228	7.78005	0.0843697	2.52248	0.0843697
RBM11	0.000510298	-3.21077	0.246056	1.37006	0.039999	2.38066	0.0211581	4.39894	0.00603877	7.64375	0.272525	1.73763
TFEB	0.0431436	-1.75373	0.354641	1.60411	0.0155356	4.20465	0.0665508	2.81318	0.0135155	7.37381	0.112897	1.57894
NBEA	0.00532862	-3.62393	0.989431	1.0011	0.0101654	2.03419	0.00851575	3.62792	0.000182885	7.37175	0.0241657	2.03195
CNN3	0.0282258	-3.72489	0.043262	1.514924	0.043262	1.97104	0.00155991	5.68889	0.0247773	7.3419	0.431702	1.29102
TIMD4	0.392733	-1.1021	0.00293234	3.31465	0.0089716	6.46749	0.000900144	3.85306	0.02142	7.1278	0.0262516	1.95118
IRF73	0.495482	-0.495482	0.0640598	3.25343	0.0173955	6.81111	0.0165864	3.66831	0.0025695	6.9761	0.0142035	1.90172
PTPRK	0.00780948	-3.96543	0.255671	1.30618	0.0238035	1.70526	0.00866956	5.17956	0.00137403	6.18497	0.118497	1.3086
MEIS1	0.00571298	-3.72728	0.28702	1.72999	0.14307	1.81005	0.0358158	5.83399	0.0100997	6.10399	0.83344	1.04628
LRRN1	0.0032955	-2.97153	0.0085330	1.81412	0.0243989	2.89665	0.00059173	4.84848	0.00059173	7.78848	0.0035411	1.59872
PPFP2	0.000705009	-1.78824	0.00974233	2.33102	0.00974233	3.1754	0.002020262	4.16844	0.001917413	6.18494	0.0140039	1.36224
C5orf13	0.0194105	-2.28377	0.124438	1.55317	0.0206312	2.531	0.00215128	3.47719	0.0192002	5.66333	0.246246	1.62957
KCNQ5	0.00172571	-3.05317	0.0619473	1.31551	0.147051	1.8071	0.00262647	4.01648	0.0147442	5.51738	0.325587	1.37368
GJB8	0.00270828	-1.72597	0.012777	1.85454	0.0278187	3.10529	0.00262196	3.39221	0.00593916	6.35963	0.0057846	1.57894
APBA2	0.0170104	-1.55431	0.11898	1.42467	0.0239041	3.26437	0.00945143	2.21437	0.021907	5.07384	0.123449	2.29132
EPHA2	0.13694	-0.82686	0.0362708	2.78694	0.0362708	2.78694	0.0846608	1.90212	0.00371172	4.93794	0.0124686	2.61179
BCL3	0.0358647	-2.22703	0.75678	1.04818	0.0486984	2.19311	0.012126	2.33433	0.000428249	4.88412	0.0233955	2.0823
RFR3	0.00290073	-2.20733	0.141598	1.81692	0.0145959	1.81692	0.0145959	1.81692	0.0145959	1.81692	0.0145959	1.81692
LGDN	0.00237674	-1.94034	0.0509171	1.18355	0.0149549	2.4704	0.00601602	2.29649	0.0146024	4.79342	0.0346647	2.08728
LRRIC16A	0.001273	-1.69086	0.149743	1.33124	0.00630459	2.8346	0.0286334	2.25094	0.0027091	4.79292	0.021877	2.1293
NKX2	0.0058422	-1.68422	0.0377986	1.60441	0.0134891	2.24881	0.00245489	4.14134	0.00245489	4.7696	0.0139816	1.39816
LOC129293	0.00310439	-1.66745	0.0203792	1.47186	0.0248137	2.76288	0.00730761	2.45426	0.00841668	4.40664	0.015818	1.877
FAM153B	0.0406805	-1.42768	0.080125	1.33303	0.00635873	3.1924	0.0002238	1.90314	0.000191428	4.55773	0.0014718	2.39485
CHMP7	0.00585986	-1.63599	0.107889	1.38985	0.010149	2.68467	0.012197	2.27231	0.00416048	4.32029	0.0088347	1.93287
RRF72	0.370173	-1.19113	0.0192673	2.19113	0.0136313	2.85914	0.03285279	3.83021	0.00059173	4.84848	0.0035411	1.59872
FCGBP	0.10171	-1.25196	0.029132	2.41024	0.0124966	3.45584	0.0007738	3.01753	0.0188077	4.32659	0.0453866	1.43382
TCF3A	0.132447	-1.24145	0.0485313	1.38801	0.0219066	1.48335	0.0209511	1.69838	0.0318894	3.24257	0.0661447	2.54629
CACD1	0.016146	-3.09898	0.013294	1.013294	0.125572	1.36336	0.0112758	3.8857	0.0274758	4.21274	0.540285	1.08417
SLC22A17	0.116901	-1.57915	0.0358599	1.36991	0.0353926	2.66651	0.0657385	2.16328	0.0183057	4.21081	0.0533111	1.94649
STXBP1	0.0427608	-1.19438	0.040517	1.42829	0.0171578	3.52381	0.021094	1.70592	0.00822834	4.20863	0.0429125	1.46401
LRP6	0.0244824	-2.36208	0.223774	1.23754	0.0112303	1.74594	0.0220148	2.92316	0.0146152	4.14205	0.189845	1.41082
DEPDC7	0.00403787	-2.36208	0.108697	1.25617	0.108697	1.25617	0.108697	1.25617	0.108697	1.25617	0.108697	1.25617
TNFRSD3T1	0.000190095	-2.79014	0.189291	1.16442	0.0679496	3.27866	0.00419666	3.2489	0.00471325	3.84162	0.424713	1.81244
VIPR1	0.0471522	-1.18851	0.0430397	1.34747	0.0269818	3.20509	0.0042975	1.60148	0.022487	3.80929	0.078342	1.37876
ANKRD35	0.0107953	-2.47323	0.134721	1.33455	0.0170171	1.33455	0.0231375	1.50285	0.0231375	1.50285	0.0231375	1.50285
HLA-DQA	0.0227487	-1.82461	1.122048	0.00794378	1.9514	0.0126132	2.29581	0.00083481	3.84036	0.0154175	2.63842	1.51525
KCTD12	0.00771714	-1.57605	0.0473797	1.14083	0.0473797	2.28879	0.00130735	1.78801	0.0189101	3.60725	0.0488053	2.00624
SEPPORF1	0.0600189	-1.70264	0.117768	1.68225	0.0259343	2.10386	0.0314763	2.86469	0.0297999	3.5821	0.20314	1.25043
NPFD	0.0686863	-1.15722	0.0686863	1.15722	0.0686863	1.15722	0.0686863	1.15722	0.0686863	1.15722	0.0686863	1.15722
FAM63A	0.29462	-1.42669	0.25635	1.28627	0.0255893	2.46212	0.0697832	1.76378	0.01385	3.51268	0.00339523	1.99157
LMO7	0.0293286	-1.52677	1.34762	0.0049167	2.28789	0.0049167	2.28789	0.0049167	2.28789	0.0049167	2.28789	0.0049167
GGET2	0.0036958	-1.19189	0.123686	1.1986	0.0316718	2.92765	0.0301242	1.4286	0.0262013	3.4967	0.0725257	2.44272
CEP350	0.0701724	-1.60522	0.224967	1.41929	0.0244967	1.41929	0.0244967	1.41929	0.0244967	1.41929	0.0244967	1.41929
MYO15B	0.0524358	-1.60522	0.0015941	1.63943	0.084575	2.10341	0.0120389	2.63164	0.0220356	3.78447	0.0420927	1.28302
BEND5	0.0151537	-1.36523	0.280312	1.24888	0.00210697	2.42085	0.0832186	1.70501	0.00631391	3.37328	0.0170444	1.97845
LRP13	0.0273928	-1.36523	0.280312	1.24888	0.00210697	2.42085	0.0832186	1.70501	0.00631391	3.37328	0.0170444	1.97845
FAM153C	0.125067	-1.49591	0.0180384	1.35104	0.0312759	2.20418	0.0350747	2.02103	0.00370561	3.29727	0.0443718	1.63147
CTIF48	0.0328272	-1.50435	0.134263	1.37629	0.00305636	2.19066	0.0474169	2.07403	0.0431586	3.29553	0.0379465	1.59171
ALPK1	0.032003	-1.63813	0.228989	1.31484	0.073019	1.89918	0.0158133	2.15388	0.0114397	3.25854	0.0082434	1.51287
FAM63B	0.00176132	-1.97854	0.029093	1.36909	0.131429	1.36909	0.131429	1.36909	0.131429	1.36909	0.131429	1.36909
FCER1G	0.880899	-1.02503	0.0060208	2.60439	0.0228718	3.11916	0.0225581	2.66957	0.0156817	3.19722	0.248259	1.19765
TMEM220	0.0629253	-2.09968	0.11197	1.52774	0.116272	1.54176	0.0136092	3.14667	0.00643157	3.17554	0.881964	1.00917
CEP350	0.0701724	-1.60522	0.224967	1.41929	0.0244967	1.41929	0.0244967	1.41929	0.0244967	1.41929	0.0244967	1.41929
CYP2J2	0.00215069	-2.36208	0.108697	1.25617	0.108697	1.25617	0.108697	1.25617	0.108697	1.25617	0.108697	1.25617
FLJ13197	0.207355	-1.19675	0.0223282	1.42407	0.0217459	2.62338	0.0208046	1.70425	0.0341681	3.1399	0.0040249	1.84217
GALNT3	0.00548412	-1.54171	0.0261167	1.5782	0.0112249	2.02853	0.00233334	2.43312	0.00643157	3.17271	0.180511	1.28222
KIAA0748	0.193849	-1.02503	0.0362869	1.02503	0.0362869	1.02503	0.0362869	1.02503	0.0362869	1.02503	0.0362869	1.02503
KIAA0748	0.0302412	-1.1488	0.733517	1.0488	0.0176314	2.67605	0.0030375	1.20486	0.0091870	3.07426	0.0074024	2.55155
FAM117B	0.0643794	-1.23605	0.0578279	1.51856	0.0010752	2.4717	0.0117159	1.87701	0.0044003	3.05514	0.0607970	1.62766
ANKRD35	0.0107953	-2.47323	0.134721	1.33455	0.0170171	1.33455	0.0231375	1.50285	0.0231375	1.50285	0.02	

WDR89	0.169369	-1.20398	0.0977455	1.131379	0.0159212	1.581778	0.0109211	1.84623	0.0343836	1.247462	1.16718
RHCH	0.00235656	-1.3093	0.193259	1.06238	0.00517862	1.39682	0.0153207	1.39998	0.00086389	1.83109	0.038517
SFNA4	0.0026376	-1.42437	0.0911007	1.24669	0.0629376	1.29427	0.023716	1.72927	0.015827	1.72927	1.0302
SNDRAS54	0.0687866	-1.36623	0.00396664	1.25093	0.0400296	1.36638	0.01985	1.67245	0.0155537	1.82579	1.09229
UBASH3B	0.0868312	-1.16409	0.174246	1.14205	0.0885522	1.56532	0.0120338	1.32945	0.0156444	1.82217	0.0653826
NA1158	0.111752	-1.07772	0.107122	1.03722	0.0255732	1.35144	0.051196	1.41523	0.0361166	1.81411	1.42474
NMNA3	0.2027256	-1.43261	0.101248	1.11078	0.153291	1.24608	0.0162652	1.59132	0.0114057	1.78515	0.402229
MMP19	0.0913408	-1.18518	0.0594405	1.33241	0.00393427	1.4914	0.0483323	1.57914	0.0188668	1.70533	1.11932
KIA1257	0.0294381	-1.25596	0.0383495	1.21873	0.0361752	1.4707	0.0311226	1.53067	0.00638769	1.76714	0.240542
RPL10A	0.0153399	-1.03589	0.150843	1.05843	0.0504141	1.35144	0.0468037	1.41523	0.0468037	1.76369	0.118028
RBM26	0.00769736	-1.30041	0.139485	1.14092	0.022129	1.35421	0.0348228	1.48367	0.0106737	1.76103	1.58804
PCYOX1L	0.012892	-1.20216	0.123506	1.15963	0.00519449	1.46377	0.0499918	1.38324	0.00074671	1.75969	0.0584707
C20R4	0.0738899	-1.0071923	1.12949	0.0529916	1.41087	0.0150796	1.41038	0.0035952	1.75352	0.011424	1.7342
AARS01	0.104662	-1.26776	0.167126	1.13908	0.0327793	1.3908	0.00669565	1.6983	0.00664379	1.75929	0.327774
TSEN2	0.200895	-1.14974	0.0773781	1.31149	0.151926	0.000790391	1.50787	0.00729916	1.74675	0.0989404	1.15842
THL1	0.0426966	-1.34174	0.0165662	1.08733	0.016278	1.29354	0.0360088	1.45892	0.0310331	1.7356	0.0519977
RBCP5F5	0.0125292	-1.07126	0.121474	1.03291	0.0235299	1.32746	0.0053274	1.58994	0.0121424	1.7342	0.353058
DEYND2	0.0273775	-1.15242	0.157676	1.09434	0.0292906	1.48504	0.0485958	1.26114	0.0205602	1.71139	0.103115
PENB	0.0234919	-1.31998	0.0185665	1.17451	0.0400313	1.28432	0.0120528	1.55033	0.00788048	1.69528	0.122298
USP51	0.0245044	-1.42437	0.129304	1.02391	0.074392	1.13391	0.0222141	1.52577	0.0131634	1.69898	0.078688
MP	0.305354	-1.0984	0.130272	1.17506	0.0109654	1.52671	0.00148889	1.29068	0.0230596	1.67693	0.0657666
UNKNOWN	0.842157	-1.01921	0.0584532	1.26978	0.0149654	1.64278	0.104644	1.29418	0.0213694	1.65005	0.00360298
FAM88B1	0.00989719	-1.41498	0.590147	1.02794	0.111274	1.16218	0.00468765	1.45946	0.00814181	1.65005	0.225694
UBASH3A	0.109498	-1.12195	0.0468036	1.32553	0.00587806	1.46714	0.0052244	1.49054	0.0168249	1.64605	0.104533
LARS	0.130474	-1.09914	0.177835	1.13891	0.0476367	1.49455	0.0712029	1.25182	0.0252542	1.64272	0.0126044
Cyorf1549	0.0919349	-1.32336	0.0589027	1.10752	0.0745266	1.23532	0.028094	1.46564	0.00530192	1.63478	0.094879
FAM88B1	0.0673443	-1.24579	0.185971	1.07343	0.0198501	1.30424	0.00743961	1.33727	0.0377369	1.62481	0.115632
TRPM	0.121646	-1.0746	0.121646	0.95341	0.0178301	1.04549	0.0096201	1.41523	0.0096201	1.61524	0.0046714
IRP1	0.30237	-1.10964	0.101569	1.15419	0.0076601	1.45441	0.0498077	1.28074	0.0441156	1.61499	0.0422168
ZFAND1	0.0231679	-1.24167	0.268776	1.09472	0.0164322	1.29932	0.0032899	1.36928	0.0085467	1.61333	0.0278013
NHE1	0.0947238	-1.14437	0.14857	1.04857	0.0074392	1.40168	0.0077204	1.5144	0.0138802	1.69405	0.055299
TBC1D15	0.057616	-1.05878	0.745537	1.03792	0.0119893	1.5016	0.0000539	1.09893	0.0094289	1.58986	0.021513
NSUN5B	0.00610013	-1.14155	0.012658	1.2194	0.0088202	1.38545	0.00148922	1.39201	0.00210726	1.58216	0.0005594
FAM88B1	0.0489036	-1.24914	0.118335	1.02531	0.0508176	1.2562	0.0330718	1.28076	0.00953423	1.56917	0.062429
RBM43	0.011349	-1.0121	0.07114	1.00711	0.013692	1.30866	0.0083096	1.52066	0.0083096	1.50339	0.00419243
NUP35	0.0237776	-1.27167	0.859363	1.00776	0.0104361	1.22162	0.0628854	1.28153	0.0062854	1.55349	0.0064626
SMA2P	0.823356	-1.00484	0.193042	1.11956	0.0077268	1.54449	0.115652	1.12498	0.0128935	1.55197	0.0403904
NUP51	0.991431	-1.21813	0.423273	1.07581	0.0272454	1.26862	0.0076129	1.31047	0.0020192	1.54535	0.022995
UNKNOWN	0.00352483	-1.28361	0.194978	1.14717	0.018562	1.20028	0.0396568	1.47251	0.00265151	1.54069	0.015478
NSUN5	0.001442	-1.1193	0.0103189	1.26595	0.0289184	1.3752	0.00514927	1.4069	0.0138116	1.53926	0.36831
LOC283398	0.0014669	-1.25225	0.29446	1.09919	0.00910343	1.20856	0.0370078	1.37429	0.0035602	1.51379	0.019577
LOC100288322	0.029498	-1.09348	0.029498	1.13379	0.006976	1.36066	0.0046389	1.31297	0.008587	1.50339	0.013243
ATM	0.276683	-1.0951	0.0883084	1.14912	0.0319752	1.3737	0.0388903	1.25841	0.00342113	1.50344	0.0221452
C16orf67	0.0427573	-1.21116	0.00781918	1.23093	0.0835566	1.23433	0.0177958	1.49085	0.0051601	1.49338	0.96982
FOO3	0.0069254	-1.2047	0.279461	1.06896	0.0072954	1.24375	0.0224963	1.30474	0.003475	1.63039	0.0213443
PTN6	0.26123	-1.03809	0.0831646	1.2188	0.0227377	1.41425	0.0235193	1.26544	0.00658999	1.46954	0.004743
SFMBT2	0.0998516	-1.23258	1.08024	1.002875	0.0128715	1.19027	0.0003894	1.3438	0.0247904	1.4671	0.018339
NOL5	0.0037518	-1.13763	0.181946	1.08593	0.00959494	1.28632	0.0021483	1.23539	0.0295957	1.46336	0.124146
LAS1	0.129538	-1.02507	0.034763	1.13624	0.0136241	1.36248	0.0125481	1.42548	0.0125481	1.42548	0.017846
RPS3A	0.0989262	-1.19908	0.526035	1.0042618	0.020865	1.20985	0.0030389	1.23934	0.0189163	1.44928	0.065458
JAGN1	0.29211	-1.07099	0.528335	0.019969	0.019969	1.38171	0.1017919	1.18172	0.00662274	1.44768	0.023799
TMPO	0.0671152	-1.10663	0.150183	1.07398	0.0260752	1.30511	0.0261099	1.13424	0.0076658	1.44296	0.0208889
AKR1B1	0.11633	-1.02526	0.089163	1.07521	0.0076371	1.28448	0.00666939	1.41344	0.00666939	1.41344	0.110325
PNP1L1	0.166537	-1.13797	0.303685	1.10586	0.0394525	1.25794	0.00390757	1.25844	0.0064102	1.43151	0.0629968
SEH1L	0.119351	-1.09351	0.320875	1.03605	0.0156776	1.19215	0.00625119	1.25844	0.00401847	1.42295	0.00156432
TBC1D3	0.123885	-1.078	0.0196479	1.03742	0.0037428	1.31299	0.0029428	1.41441	0.0029428	1.41441	0.0029428
ACBD4	0.0370875	-1.23568	0.70104	1.01882	0.00449563	1.12866	0.031949	1.25689	0.0198315	1.39241	0.125309
EEF2K	0.214055	-1.03493	0.0434838	1.33103	0.0114705	1.33999	0.0560952	1.37753	0.0143598	1.39679	0.0505897
FLJ39653	0.0112951	-1.22136	0.024004	1.05294	0.0404187	1.12869	0.00278489	1.28603	0.00144665	1.37963	0.0547421
MTOR	0.0191714	-1.09283	0.0695744	1.13379	0.013692	1.48217	0.0181027	1.32455	0.008587	1.50339	0.00419243
GPM3	0.073152	-1.07706	0.0779813	1.12392	0.0284745	1.24811	0.0067499	1.21053	0.0067499	1.34429	0.194675
UNKNOWN	0.0884604	-1.05458	1.79E-05	1.13406	0.0128308	1.25041	0.00085322	1.19596	0.0227623	1.31866	0.0632959
PNP8	0.0094998	-1.58951	0.0050806	1.07581	0.00269703	1.30866	0.00269703	1.30866	0.00269703	1.30866	0.00269703
FOCHI	0.0098795	-1.13628	0.13628	0.93569	0.0424773	1.15332	0.0395627	1.17716	0.00709514	1.31049	0.00959702
NUMA1	0.0696498	-1.07559	0.0031959	1.12604	0.0119589	1.2149	0.0252211	1.21116	0.0090005	1.30674	0.17891
ANAPC13	0.120966	-1.06389	0.029864	1.06302	0.00392157	1.21714	0.0689376	1.12753	0.0101065	1.29496	0.0120388
PNP8	0.0094998	-1.58951	0.0050806	1.07581	0.00269703	1.30866	0.00269703	1.30866	0.00269703	1.30866	0.00269703
UNKNOWN	0.0530336	-1.12052	0.0791007	1.07351	0.0168467	1.14666	0.0317992	1.20289	0.00138552	1.28486	0.139425
ZNF121	0.0150399	-1.12125	0.644354	1.01899	0.0418046	1.1338	0.0365436	1.14254	0.013201	1.27217	0.0115195
MEK1	0.807113	-1.00713	0.18086	0.0413271	0.0322871	1.2607	0.0282172	1.26062	0.0282172	1.26062	0.0282172
EIF2B4	0.00132386	-1.11981	0.21526	1.02886	0.130781	1.08065	0.00749911	1.15213	0.0198146	1.21012	0.101844
NDUFS2	0.102443	-1.03428	0.0172491	1.14562	0.0208366	1.15797	0.0262413	1.1849	0.0317213	1.19767	0.630508
C20orf11	0.279635	-1.0358	0.169794	1.07686	0.0279599	1.12974	0.0142686	1.11864	0.00324255	1.17357	0.0788379
LOC100288322	0.00128645	-1.02647	0.52329	1.01833	0.020382	1.10433	0.0125481	1.10433	0.0125481	1.10433	0.0125481
MTCH2	0.0128645	-1.11038	0.664078	1.001532	0.203082	-1.0413	0.0326265	-1.12739	0.0195891	-1.15624	0.114695
UNKNOWN	0.199411	-1.02229	0.131298	0.0668815	-1.17697	0.0508035	-1.08167	0.0170789	-1.20392	0.0046421	-1.11302
RAB6C	0.011157	-1.1632	0.228175	-1.03413	0.117747	-1.10375	0.0112812	-1.15442	0.0230477	-1.23214	0.0674434
KIF4D	0.0887122	-1.08812	0.088502	0.025917	0.025917	-1.14033	0.025917	-1.12111	0.025917	-1.21049	-1.01169
SETD2	0.0683449	-1.07632	0.00788884	-1.14613	0.0273652	-1.14781	0.0102479	-1.23359	0.0270477	-1.25191	0.935755
UNKNOWN	0.0284497	-1.18941	0.634548	0.01965	0.221426	-1.00368	0.00920888	-1.21279	0.0032135	-1	

MEF2D	0.0547906	1.27143	0.0439317	-1.1686	0.0285288	-1.39695	0.00602381	-1.48566	0.0169585	-1.77611	0.0067286	-1.1955
ABL1	0.18666	1.02624	0.48625	-1.05172	0.0115689	-1.61152	0.0344437	-1.15967	0.0271034	-1.77893	0.0596578	-1.53226
TMEM30A	0.369041	0.107442	0.0163949	-1.04299	0.0143249	-1.44563	0.0072848	-1.49029	0.0072848	-1.78445	0.0067286	-1.23133
PCBP4	0.375289	1.11049	0.0666813	-1.31236	0.062673	-1.60961	0.00270138	-1.48567	0.0123739	-1.78445	0.0937658	-1.2265
PLCD1	0.228811	1.16518	0.105434	-1.2003	0.0371205	-1.55309	0.00537742	-1.35736	0.0151729	-1.79445	0.0434877	-1.29391
CHST12	0.1404778	1.03442	0.0044204	-1.03442	0.0044204	-1.03442	0.0044204	-1.03442	0.0044204	-1.03442	0.0044204	-1.03442
RASGRP1	0.00692484	1.34493	0.0055017	-1.23954	0.0055017	-1.34003	0.000788619	-1.66709	0.0214035	-1.80225	0.449247	-1.08108
UNKNOWN	0.0300463	1.43458	0.195179	-1.1703	0.172892	-1.25728	0.161877	-1.6789	0.00617304	-1.80225	0.473258	-1.07432
C1orf58	0.0541211	1.20101	0.0031835	-1.23113	0.0336898	-1.51119	0.00174346	-1.47786	0.0194549	-1.81495	0.100193	-1.22748
C1orf63	0.027048	1.04491	0.0469304	-1.44919	0.0469304	-1.44919	0.0469304	-1.44919	0.0469304	-1.44919	0.0469304	-1.44919
C6orf129	0.1708	1.25962	0.1501	-1.34259	0.055032	-1.45066	0.0140629	-1.69114	0.00683104	-1.82727	0.342074	-1.08005
FHOD1	0.029156	1.31533	0.164558	-1.16104	0.0203959	-1.38925	0.0355083	-1.52715	0.00713606	-1.82733	0.167129	-1.19656
DKFZB434F142	0.197926	0.39759	0.101255	-1.04259	0.0235999	-1.03779	0.156307	-1.09779	0.0135228	-1.62981	0.011979	-1.66696
PKC3CG	0.0311931	0.05919	0.142529	-1.06815	0.142529	-1.06815	0.0679118	-1.17201	0.012462	-1.839	0.0527732	-1.5691
ITPR3	0.0488991	1.32188	0.00479873	-1.05391	0.00479873	-1.39212	0.0214746	-1.39314	0.00527489	-1.84022	0.0423881	-1.32092
BTG3	0.0762927	1.23261	0.00993174	-1.20075	0.0131925	-1.49325	0.0182573	-1.48006	0.024093	-1.8406	0.0374539	-1.2436
C4orf9	0.226257	1.1125	0.069308	-1.34689	0.069308	-1.25848	0.0052042	-1.65499	0.0052042	-1.85291	0.0176121	-1.2382
CNNM3	0.115885	1.16355	0.00130444	-1.35921	0.0142581	-1.66446	0.00544135	-1.51735	0.0110087	-1.85811	0.0577696	-1.22457
IFIH1	0.0044787	1.55262	0.106723	-1.03626	0.230472	-1.19684	0.00125638	-1.58084	0.0156721	-1.85824	0.297146	-1.12563
MYO4	0.0142755	1.21213	0.149463	-1.22308	0.0323424	-1.49325	0.0411726	-1.46253	0.0167743	-1.8626	0.011979	-1.25637
CDK2AP1	0.0251922	1.33112	0.254641	-1.15028	0.0129739	-1.41296	0.0586303	-1.53117	0.0179154	-1.88083	0.1178	-1.22836
REL	0.0412599	1.44971	0.270209	-1.05442	0.0276925	-1.29986	0.0320058	-1.52886	0.0353679	-1.88441	0.0804979	-1.23277
BCL2L1	0.206885	1.16956	0.0198763	-1.10216	0.0116371	-1.61141	0.0766558	-1.28903	0.0311139	-1.88484	0.027491	-1.46205
MVD	0.0532717	1.51055	0.168338	-1.15524	0.0232314	-1.25848	0.00791556	-1.74481	0.0191582	-1.90075	0.404951	-1.09337
TTC39C	0.0265933	1.41477	0.00088218	-1.31713	0.115795	-1.34546	0.0110305	-1.86344	0.00746175	-1.90352	0.874559	-1.02151
010173739	1.46982	0.288785	-1.1049	0.104986	-1.29594	0.0392208	-1.62401	0.0059077	-1.9048	0.303326	-1.1729	
FLKHA2	0.325273	1.12428	0.493814	-1.097	0.0220093	-1.70477	0.0194193	-1.23344	0.00071361	-1.91664	0.00621422	-1.55403
SL2	0.018452	1.01649	0.018452	-1.16954	0.0044204	-1.16954	0.0044204	-1.16954	0.0044204	-1.16954	0.0044204	-1.16954
EMCA	0.261405	1.1806	0.0144881	-1.36411	0.0161141	-1.62892	0.00768486	-1.61046	0.0118582	-1.92074	0.16425	-1.19266
CDCA4	0.3992137	1.36048	0.0172784	-1.18228	0.0540966	-1.40298	0.0194111	-1.63211	0.00705036	-1.93678	0.129121	-1.18667
FLC2	0.0542954	1.41298	0.133867	-1.3095	0.0213624	-1.73787	0.0389203	-1.42537	0.00464124	-1.85029	0.3414945	-1.04824
MBSD10	0.026267	1.50706	0.557483	-1.07613	0.101058	-1.29383	0.00597339	-1.62179	0.0052701	-1.94988	0.11642	-1.2023
TBCD	0.0171678	1.55119	0.100909	-1.173756	0.100909	-1.27032	0.0215127	-1.88827	0.00889054	-1.9714	0.780315	-1.03852
CAPN2	0.0897151	1.25252	0.0788447	-1.21181	0.0556263	-1.57567	0.0171611	-1.52407	0.0120135	-1.97356	0.0497883	-1.29492
ICAP1	0.00162312	1.21213	0.0146387	-1.2942	0.0139213	-1.59394	0.0315995	-1.63781	0.00561225	-1.91671	0.0303676	-1.22628
CHST11	0.0036439	1.38419	0.0286141	-1.28324	0.0146163	-1.4403	0.00345969	-1.74857	0.00290503	-1.98194	0.0011747	-1.14016
PIK3R1	0.0062689	1.70051	0.0254635	-1.16076	0.181316	-1.17487	0.00105102	-1.97388	0.0185155	-1.99788	0.914655	-1.02116
010162312	1.21213	0.0191582	-1.2942	0.0139213	-1.59394	0.0315995	-1.63781	0.00561225	-1.91671	0.0303676	-1.22628	
KIR2DL3	0.0344136	1.384	0.0788495	-1.19448	0.0788495	-1.45443	0.0109757	-1.55322	0.0117867	-1.90293	0.162876	-1.25997
DLG3	0.0246884	1.17657	0.17277	-1.26685	0.0463019	-1.71456	0.0493997	-1.49054	0.0181093	-1.9073	0.0080612	-1.3734
MXD3	0.0961032	1.17643	0.0193864	-1.16811	0.00386963	-1.16811	0.0152805	-1.3742	0.00462567	-1.93363	0.0162773	-1.4596
RALGAP3	0.0542987	1.29706	0.0567673	-1.29706	0.0567673	-1.29706	0.0567673	-1.29706	0.0567673	-1.29706	0.0567673	-1.29706
S1PR5	0.0890555	1.13316	0.0116667	-1.02231	0.0204438	-1.80624	0.0671071	-1.5912	0.00785194	-1.96676	0.0316258	-1.76579
WSB2	0.00812129	1.30145	0.0272323	-1.38804	0.0630407	-1.5904	0.0112685	-1.78044	0.0214745	-1.96833	0.231719	-1.16254
CD3	0.332257	1.21213	0.122951	-1.02951	0.00919255	-1.20295	0.00919255	-1.20295	0.00919255	-1.20295	0.00919255	-1.20295
TIPARP	0.0295737	1.66499	0.0415944	-1.11666	0.137043	-1.24355	0.0148815	-1.85023	0.0179111	-1.90705	0.255251	-1.11364
SP140	0.00519846	1.64008	0.352015	-1.1454	0.0921795	-1.2686	0.031679	-1.87856	0.0155737	-1.9086	0.157878	-1.10755
CD151	0.0570445	1.18701	0.196387	-1.12343	0.0140896	-1.75447	0.00505127	-1.33533	0.0209823	-1.92828	0.0679746	-1.56171
00028035	1.34748	0.324002	-1.18716	0.038209	-1.34748	0.324002	-1.18716	0.038209	-1.34748	0.324002	-1.18716	0.038209
KRTPA-2	0.0992895	1.30763	0.0356102	-1.42248	0.0356102	-1.60471	0.0319261	-1.86009	0.0057819	-1.90937	0.179637	-1.1281
NF1	0.0647327	1.18928	0.0124893	-1.31741	0.0249249	-1.76785	0.00567871	-1.65675	0.0257146	-1.91047	0.28934	-1.34191
PEA15	0.17974	1.30306	0.0413029	-1.38624	0.0237834	-1.62447	0.0422999	-1.80635	0.0068981	-1.92742	0.13782	-1.17196
PARP8	0.143251	1.24511	0.26311	-1.07639	0.0298389	-1.17076	0.019165	-1.30942	0.019165	-1.79843	0.019165	-1.52418
IRF16	0.00539847	1.48109	0.085839	-1.19568	0.00376137	-1.43976	0.0023095	-1.77091	0.00189272	-1.93242	0.0903178	-1.20414
UEVLD	0.051844	1.18414	0.00669076	-1.15707	0.00669076	-1.80231	0.0734215	-1.37013	0.00017843	-1.93418	0.0345749	-1.56785
FAH4	0.0745933	1.41077	0.0512237	-1.14528	0.020273	-1.52138	0.00364202	-1.44425	0.00364202	-1.46128	0.00364202	-1.46128
CACNB1	0.00735027	1.56098	0.0135597	-1.07902	0.0282874	-1.37941	0.0058086	-1.68432	0.0106795	-1.95234	0.0347732	-1.2784
TMX4	0.0974029	1.09575	0.0064865	-1.21361	0.0064865	-1.97239	0.0230011	-1.33202	0.0121132	-1.91626	0.0201096	-1.62522
SLC6A6	0.000780284	1.1857	0.0865415	-1.29033	0.0067854	-1.82689	0.0334587	-1.52995	0.00478215	-1.96185	0.0688227	-1.41583
0544299	1.29706	0.1612212	-1.29706	0.1612212	-1.29706	0.1612212	-1.29706	0.1612212	-1.29706	0.1612212	-1.29706	0.1612212
SV2A	0.027487	1.47538	0.0383476	-1.43126	0.077948	-1.47277	0.0239898	-1.21166	0.00719354	-1.96185	0.890612	-1.029
LLGL2	0.0480926	1.22241	0.0363039	-1.29532	0.0767379	-1.78236	0.00221529	-1.58341	0.0263367	-1.97878	0.112905	-1.37601
06041721	1.09181	0.0171611	-1.09181	0.0171611	-1.09181	0.0171611	-1.09181	0.0171611	-1.09181	0.0171611	-1.09181	0.0171611
PPP2R5C	0.0591914	1.74155	0.00692624	-1.19929	0.00692624	-1.26555	0.0357263	-1.07576	0.0280228	-1.94022	0.057485	-1.06179
CD99	0.0165087	1.74156	0.108097	-1.07472	0.108097	-1.26798	0.0176969	-1.8717	0.0369249	-1.92267	0.244654	-1.17982
RAPGEF1	0.0440179	1.70706	0.472712	-1.09109	0.121068	-1.34006	0.00129412	-1.86256	0.0308707	-1.92821	0.286399	-1.19518
PRKAR1B	0.161738	1.03822	0.0380563	-1.02961	0.02961	-1.49864	0.02961	-1.49864	0.02961	-1.49864	0.02961	-1.49864
OSBP1L	0.256352	1.17322	0.192247	-1.16298	0.00158924	-1.8981	0.064702	-1.3892	0.00499696	-1.92331	0.0156358	-1.63037
FOXP4	0.115429	1.40055	0.0042269	-1.19055	0.000312312	-1.60758	0.0007799	-1.66743	0.0237646	-1.92515	0.130647	-1.35028
CD2	0.72183	1.03864	0.0380563	-1.02961	0.02961	-1.49864	0.02961	-1.49864	0.02961	-1.49864	0.02961	-1.49864
TBC1D2B	0.271235	1.0663	0.0728759	-1.3252	0.0085593	-1.20707	0.114332	-1.4665	0.0240244	-1.92964	0.00039303	-1.56812
ST7	0.316896	1.22092	0.0075508	-1.35155	0.0408201	-1.89489	0.0613143	-1.65013	0.000897951	-1.93151	0.0098616	-1.40202
CD99	0.0101497	1.95959	0.963445	-1.00414	0.0853132	-1.18097	0.0055012	-1.96771	0.0168847	-1.94241	0.248979	-1.17609
ACT1	0.255939	1.11521	0.0386819	-1.11521	0.0386819	-1.11521	0.0386819	-1.11521</				

SRGN	0.0248758	2.25243	0.123094	-1.51769	0.110011	0.0202424	-3.41849	0.0363116	-3.81159	0.626203	-1.05646
HLA-DRB5	0.0640004	1.34829	0.0663354	-2.24616	0.0139631	-1.70036	0.0576378	-3.02848	0.0180474	-3.64087	-1.20221
BGALNT5	0.264968	1.23818	0.163668	-1.11777	0.0228984	-1.45861	0.0228984	-1.45861	0.0228984	-1.45861	-2.81855
WIP1	0.0265406	1.54837	0.0684513	-1.31069	0.0125226	-2.37285	0.0125226	-2.02444	0.00330716	-3.67373	-1.81022
PTRFR1	0.0229142	2.38468	0.00282552	-1.28106	0.0262266	-1.55175	0.0137748	-3.0549	0.0144888	-3.70043	-0.0856495
SLFN11	0.00891487	1.35781	0.00378664	-2.61709	-1.341094	-2.72891	0.00342128	-3.55351	0.012338	-3.70535	-1.02473
DUSP2	0.00432637	1.76475	0.105221	-1.79914	0.0241188	-2.13124	0.0263598	-3.17504	0.00572672	-3.76111	0.203041
UNKNOWNN	0.282598	1.29783	0.1032068	-1.70811	0.0132068	-2.89842	0.18418	-1.37465	0.00369006	-1.81418	-0.104037
ANKA5	0.0487483	1.47546	0.154798	-1.62814	0.017857	-2.55025	0.0522389	-2.40225	0.00942268	-3.76278	0.0388499
ARNAK	0.00403359	2.09202	0.0043359	-1.38318	0.0374452	-1.79878	0.000751918	-2.85862	0.00751324	-3.78788	-1.31808
NEO1	0.580734	1.05056	0.0347567	-1.54764	0.0433686	-3.63842	0.00150342	-1.62524	0.0381674	-3.67627	-2.35095
CLC1	0.00333307	1.87803	0.193557	-1.42148	0.0225666	-2.04491	0.0221552	-2.66959	0.00300364	-3.84041	0.0665079
EFP24	0.0545947	1.3672	0.0054622	-1.73584	0.00422292	-2.35673	0.0511464	-2.37324	0.0118463	-3.83939	-1.63421
MAP3K5	0.0223254	2.21064	0.209135	-1.15874	0.00591493	-1.77036	0.00180736	-2.56157	0.00911751	-3.91363	-1.52783
IL2RB	0.00672448	2.80796	0.150478	-1.24565	0.328279	-1.39929	0.00348626	-3.49773	0.0160561	-3.92916	0.652349
PLEKHG1	0.00162683	1.35011	0.0279663	-1.70488	0.0253297	-2.97807	0.0127015	-2.30177	0.0145521	-4.02071	0.167698
MYO6	0.102311	1.45378	0.0036251	-1.62593	0.0227769	-2.76857	0.0225162	-2.36368	0.0281366	-4.0249	0.050186
GTDC1	0.04092	1.50131	0.0280519	-1.26017	0.0437522	-2.68147	0.0290615	-1.89191	0.0229542	-4.02571	0.0946053
EDARADD	0.00997853	3.09673	0.298824	-1.2297	0.489998	-1.31283	0.00297583	-3.80808	0.024433	-4.05459	0.806947
GALM	0.00580333	1.72922	0.00507968	-1.87951	0.0323659	-2.43578	0.00504967	-3.25006	0.0152853	-4.21195	0.232432
TARP	0.515606	1.17291	0.590849	-1.07804	0.0152693	-3.84367	0.324488	-1.26444	0.0019062	-4.27368	0.0174583
ADAM8	0.000465304	1.7226	0.00365572	-1.55274	0.0031766	-2.48769	0.0015303	-2.67476	0.00113831	-4.2853	0.00411263
CLC1	0.00206263	2.07474	0.125021	-1.44159	0.0100777	-2.0698	0.0123899	-2.99903	0.00301585	-4.29431	0.0694171
MSME	0.220383	1.24107	0.0185945	-2.16703	0.0192279	-3.4606	0.0148592	-2.68844	0.0035316	-4.2946	-1.59894
HNRPLL	0.0320315	1.37181	0.00627977	-2.91008	0.0311274	-3.13523	0.00431571	-3.92006	0.0299005	-4.30093	0.743576
SYT11	0.010633	2.73661	0.039266	-1.57762	0.101026	-1.57933	0.0167324	-4.31462	0.0257945	-4.32201	0.992214
ATP2B4	0.0406576	1.64383	0.00275594	-1.81882	0.0512537	-2.63426	0.00974668	-2.98826	0.0232052	-4.32028	0.201298
AKSL2	0.0892481	2.1487	0.0227819	-1.421	0.047407	-1.421	0.047407	-1.421	0.0251477	-4.32028	-1.48834
MATK	0.0241342	1.77404	0.409541	-1.19423	0.0016301	-2.46051	0.0365457	-2.1186	0.00205422	-4.36504	0.0344578
ARHGAP18	0.012783	1.75225	0.152726	-1.34711	0.0205522	-2.52609	0.0047281	-2.30389	0.0143411	-4.42634	0.10009
FNIN1L	0.0248828	1.69363	0.098364	-1.46707	0.00235658	-2.75956	0.031792	-2.35997	0.00265414	-4.43911	0.0356227
SPATS2L	0.26145	1.16742	0.150608	-1.58259	0.0413277	-3.81182	0.0294893	-1.84754	0.0194046	-4.44988	0.052458
RAZ7B	0.0750696	1.49817	0.00881874	-2.22421	0.00881874	-2.99166	0.0518228	-3.32224	0.0203491	-4.48205	-1.34505
PIK3R3	0.253422	1.22671	0.00628996	-1.38821	0.0363201	-3.67104	0.0738368	-1.70293	0.0080574	-4.50331	0.0718519
TP53BP1	0.191210	1.84104	0.013118	-1.40334	0.0274874	-1.40334	0.0274874	-1.40334	0.0084513	-4.57263	0.014164
MBOAT1	0.0036784	1.83845	0.054976	-1.59938	0.0288504	-2.48837	0.00187957	-2.94704	0.0136203	-4.57474	0.173106
GYG1	0.117737	1.22775	0.0590329	-1.63848	0.0269973	-3.7739	0.0159847	-2.01165	0.0275931	-4.63342	0.0568296
KTNAL1	0.187856	1.28933	0.0954326	-1.28933	0.0274874	-3.63307	0.0186032	-3.94044	0.0036687	-4.66632	0.0769671
FAM64C	0.000151847	2.38455	0.199178	-1.30603	0.0221943	-1.99378	0.0140223	-3.1143	0.00470007	-4.74229	-1.52686
ZC3HAV1L	0.082495	1.38596	0.014242	-1.46388	0.034537	-2.027461	-2.82069	0.027461	-2.82069	-4.7865	0.252594
CLC1	0.000165988	2.37452	0.199712	-1.34759	0.00943322	-2.04358	0.00148782	-3.19987	0.00180866	-4.85253	0.0741094
ANKK2P2	0.0094222	2.40881	0.0447382	-1.69677	0.0089701	-2.51336	0.0182432	-3.64772	0.0084513	-4.72763	0.014164
CTNNA1	0.160943	1.11984	0.0199904	-1.44082	0.0199904	-3.19215	0.0200334	-2.3189	0.00382756	-5.13752	0.0092765
NPC1	0.0327133	1.63156	0.03474	-1.3467	0.0365103	-3.14888	0.00826264	-2.19723	0.00617869	-5.1376	0.0027095
TPST1	0.0711539	1.63661	0.073671	-1.11339	0.0444443	-3.33501	0.0751456	-1.55487	0.0034607	-5.33467	0.0069552
CRIM1	0.0135826	1.72361	0.0611767	-1.32346	0.0490247	-3.18563	0.00527514	-2.28114	0.0186987	-5.4908	0.00454657
SH2D2A	0.0120844	2.02574	0.00490969	-2.77655	0.00490969	-2.77655	0.00190058	-2.69706	0.0041498	-5.62456	0.0092322
ERN1	0.0125268	1.91519	0.0209008	-2.03497	0.0073597	-3.0052	0.00386083	-3.89736	0.00518703	-5.75552	0.178128
CRK2L1	0.0958972	1.39661	0.0215948	-1.63421	0.0215948	-1.63421	0.0215948	-1.63421	0.00518703	-5.89913	-1.86352
TBK1	0.00152361	2.97171	0.240503	-1.10364	0.030502	-2.05205	0.00727051	-3.27971	0.00557329	-6.08809	0.0585535
SLC1A4	0.0456114	1.39432	0.0164043	-3.0405	0.0143944	-4.37558	0.00085862	-4.23942	0.0103652	-6.10093	0.0126491
STOM	0.0026957	3.15389	0.0244174	-1.20034	0.0344485	-1.94075	0.00259577	-3.78573	0.00665307	-6.12091	0.0368782
FACGL1	0.0420114	1.66188	0.045026	-1.30929	0.0189431	-2.90929	0.0189431	-2.90929	0.0043689	-6.12091	0.0061804
PHACTR2	0.0197976	2.1235	0.000158255	-2.3582	0.0214872	-2.98937	0.00426335	-5.00763	0.00261913	-6.34793	0.29189
GALNT3	0.0749899	1.26115	0.56637	-1.11777	0.0328758	-2.50491	0.295545	-1.391	0.0350504	-6.51215	0.0094753
ARID2	0.0047854	1.42657	0.148483	-1.40893	0.00623023	-4.67704	0.00521304	-5.67798	0.0035705	-6.57298	-1.26765
UNKNOWNN	0.0117643	2.91816	0.662053	-1.09569	0.095773	-2.2674	0.0319968	-3.19739	0.00805204	-6.61665	0.146589
PIK3AP1	0.005689	1.50323	0.00931001	-1.42813	0.00931001	-4.40381	0.00957582	-2.14681	0.0036406	-6.61966	0.0455906
UNKNOWNN	0.0229876	1.56156	0.189417	-1.58827	0.0059039	-4.26118	0.0943058	-2.48018	0.00259989	-6.65407	0.106231
TLX3	0.0385455	1.93871	0.146571	-1.39844	0.0279349	-1.58764	0.0175564	-3.61827	0.0094876	-6.72927	-2.86829
PLEXA5	0.304265	1.45764	0.0431515	-2.21279	0.00467823	-4.62896	0.0025536	-3.22545	0.0119763	-6.74443	0.0116667
DUSP10	0.0208958	3.10753	0.465729	-1.19387	0.00425221	-2.18633	0.0258938	-3.70999	0.00491791	-6.79471	0.115425
ANKA2	0.253946	1.39661	0.0239246	-1.01803	0.0214872	-4.85037	0.01416293	-3.70999	0.00491791	-6.79471	-1.8313
PTGDR	0.0291546	1.58251	0.129484	-1.62677	0.00952846	-4.42195	0.0676344	-2.57438	0.00427871	-6.99784	0.0970549
FRMD4B	0.122785	1.28533	0.0759013	-1.54222	0.0346233	-4.92222	0.0476342	-2.914	0.0133886	-7.09332	0.133364
ANXA2	0.0391703	3.66734	0.00645051	-1.74551	0.0447965	-1.95644	0.0267121	-6.40138	0.0204153	-7.17492	0.535334
EOMES	0.0015058	2.93498	0.241962	-1.52702	0.0084771	-2.62625	0.0160234	-6.79718	0.0024896	-7.17492	-1.12084
CADM1	0.052074	1.37864	0.0202724	-2.84157	0.0289571	-5.23347	0.0222449	-3.91755	0.0120537	-7.21507	0.28727
MAF	0.0354317	1.60456	0.264936	-1.64936	0.0083929	-4.4993	0.00614224	-4.25105	0.00113806	-7.21937	0.0197814
NR3C1	0.0385455	1.93871	0.0240551	-1.39844	0.00314364	-2.90539	0.00325254	-3.90336	0.0070798	-7.27294	0.0669552
NBEAL2	0.0112494	2.22995	0.0163264	-2.38181	2.52E-06	-3.74255	0.00274559	-5.31132	0.00177255	-7.45975	0.0094859
PPP2R2B	0.0826817	1.25592	0.00759091	-2.02288	0.00759091	-5.98603	0.00789152	-2.54058	0.0117562	-7.51799	0.0694094
PELO	0.0107182	2.37058	0.0371392	-1.96375	0.0857317	-3.18988	0.0186105	-4.65523	0.0428704	-7.58977	0.170736
SLC4A4	0.0181743	1.61279	0.23801	-1.28015	0.00865262	-4.22461	0.00865262	-4.22461	0.00865262	-7.62065	0.0069166
KLF1	0.295583	1.1044	0.086264	-1.59807	0.0676072	-7.10683	0.0263505	-1.74591	0.0127119	-7.74597	0.0416145
NR3C1	0.00301153	3.90866	0.0217722	-1.41245	0.0299182	-2.03016	0.00034848	-5.58039	0.0019427	-8.00286	0.08759
FGS2	0.0222778	3.9777	0.368924	-1.22759	0.159616	-2.0389	0.00366224	-4.88297	0.00366224	-8.11014	0.100037
TGFB3	0.0180451	2.41474	0.00718025	-1.01942	0.0180451	-3.30317	0.00092096	-5.91118	0.00092096	-8.18817	0.0801867
PRF1	0.0302019	1.23368	0.0447407	-1.79574	0.0153324	-6.6186	0.0282762	-2.21536	0.011556	-8.16521	0.0620215

Supplementary Table 4 Differentially regulated genes among TSCM and TN

Gene Symbol	p-value(TSCM vs. TN)	Fold-Change(TSCM vs. TN)	p-value(TSCM vs. TCM)	Fold-Change(TSCM vs. TCM)	p-value(TSCM vs. TEM)	Fold-Change(TSCM vs. TEM)	p-value(TN vs. TCM)	Fold-Change(TN vs. TCM)	p-value(TN vs. TEM)	Fold-Change(TN vs. TEM)
GZMK	0.00497381	75.0522	0.239584	-1.26205	0.693754	-1.17197	0.00929638	-94.7195	0.00626343	-87.9588
GPR15	0.00217539	70.1816	0.223374	-1.43443	0.6913765	-1.33005	0.0196687	-48.3009	0.0322341	-45.8745
CCL5	0.00444921	32.679	0.74343	-1.03011	0.00603524	-1.43937	0.0075545	-33.663	0.00295064	-47.0371
EPHA4	0.000455354	10.3023	0.0555098	-1.45813	0.61964	-1.16331	0.00163882	-15.0221	0.0131437	-11.9847
ENTPD1	0.0089102	9.34916	0.252552	-1.69392	0.312745	1.88898	0.00815629	-15.8367	0.035838	-14.9546
CST3	0.00403939	8.00631	0.0193134	-2.8512	0.030605	-4.13029	0.00162655	-21.6716	0.00678962	-33.3943
TIGIT	0.00145008	7.82849	0.0336586	-1.49884	0.470843	-1.31538	0.00352079	-11.7344	0.0164199	-10.2974
KLRD1	0.00430347	7.71349	0.122727	-1.53638	0.0511963	-6.41623	0.0143551	-4.81623	0.0172311	-49.4915
IRF4	0.00462503	6.46448	0.241133	1.30362	0.11049	1.60089	0.000525078	-4.95887	0.0124287	-4.03806
FAS	0.00361856	6.04861	0.0117075	-1.81016	0.1336	-2.04396	0.0046892	-10.949	0.0154631	-12.3594
FAM129A	0.00416919	5.87993	0.00515485	-3.46155	0.0196464	-2.71332	0.0047987	-20.3537	0.00705909	-16.5642
PTPR18	0.00446348	5.17656	0.0433618	-1.40557	0.595662	-1.20572	0.0056687	-7.27604	0.026371	-4.29333
STRGALNAC2	0.00155001	5.0845	0.0323896	-1.63568	0.132357	-2.60026	0.004299	-3.1662	0.0157509	-13.221
MCOLN2	0.00479449	5.00442	0.0216347	-1.54622	0.359022	-1.39796	0.00649586	-7.74794	0.0389763	-6.99547
ZEB2	0.00208667	4.61123	0.00107252	-1.95859	0.0203743	-6.97726	0.00170489	-0.03362	0.00895865	-32.1812
F2R	0.00489907	4.54255	0.353924	-1.39095	0.0147183	-2.17584	0.036073	-6.31848	0.00350518	-9.88387
CD58	0.00471822	4.26874	0.004386	-2.12697	0.00212238	-2.85231	0.000512353	-0.07948	0.0016947	-12.1758
SLAMF1	0.000732404	4.24662	0.786797	1.02942	0.616299	-1.13751	0.00585728	-11.2525	0.0203264	-8.83058
SEE1	0.00161558	4.14664	0.0070793	-2.13723	0.0903694	-2.36598	0.0063499	-9.8695	0.0084177	-9.77624
HAVCR1	0.00757869	4.01234	0.0218798	2.5117	0.00953128	4.83783	0.128895	-1.59746	0.568285	1.20574
STSSIA1	0.00777112	3.9827	0.122733	-1.34792	0.7017	-1.04361	0.0031738	-5.36836	0.000483408	-4.1564
PLXND1	0.00372958	3.96404	0.689101	-2.04155	0.00884386	-4.84705	0.0125457	-8.00279	0.00266967	-19.2139
FOSL2	0.00301153	3.95096	0.021722	-1.41245	0.0299182	-2.03016	0.00348448	-5.59039	0.00194327	-8.02086
MYBL1	0.00689762	3.93023	0.0403337	-1.57598	0.0143397	-5.95765	0.000565471	-6.19395	0.00138638	-23.4149
ITGB1	0.00774226	3.75504	0.0339428	-1.45958	0.948283	-1.0186	0.0076458	-5.4808	0.0675381	-2.64232
SLC27A2	0.000461133	3.36985	0.431135	-1.15132	0.328427	1.12724	0.0102803	-3.87953	0.0107161	-2.98928
USP46	0.00239229	2.88694	0.224866	-1.86582	0.0267936	-3.86589	0.00793862	-4.79382	0.0107032	-4.22299
STOM	0.00289587	3.15389	0.0424174	-1.20034	0.0344885	-1.94075	0.00029677	-3.78573	0.00695307	-6.12091
EDARADD	0.00997853	3.09673	0.286824	-1.2297	0.489998	-1.31283	0.00297583	-3.80806	0.0224433	-4.06549
ARID5B	0.000307001	2.99301	0.0132295	-1.47146	0.423938	1.17216	0.000464105	-4.40013	0.0226915	-2.55112
MAP3K1	0.0012236	2.97171	0.240319	-1.03264	0.205026	-2.05205	0.0087426	-2.46642	0.10229	-6.09809
MYO1F	0.00583135	2.96031	0.052977	-1.62434	0.00853022	-2.88121	0.00792721	-4.80854	0.00105004	-8.52927
CLDN11	0.00427788	2.94177	0.0176366	-1.23802	0.973318	1.00185	0.00129176	-3.64197	0.00532009	-2.93634
ECMES	0.00195058	2.93308	0.241966	-1.57202	0.0064771	-2.45894	0.0324695	-6.41087	0.000940476	-7.21227
USP16	0.00239229	2.88694	0.0152222	-2.22805	0.0781054	-1.46279	0.00297311	-4.53226	0.0107032	-4.22299
IL2RB	0.00672448	2.80796	0.150478	-1.24565	0.328279	-1.69239	0.00348626	-3.49773	0.0165061	-3.92916
NCAPH	0.00784854	2.76233	0.0144006	-3.90517	0.0420337	-2.74215	0.00124699	-10.5742	0.00519856	-7.57472
LRIG1	0.00893925	2.58571	0.085408	-1.36406	0.0297177	-1.23479	0.00323754	-3.52707	0.00466887	-3.1928
MAP3K1	0.00949677	2.5628	0.463519	-1.03908	0.0405162	2.0104	0.00364288	-2.46642	0.10229	-1.27477
IGSF9B	0.00114372	2.44439	0.123321	-1.67205	0.000274191	2.79013	0.0181146	-4.08708	0.063643	1.14146
TPSTAN18	0.00603435	2.4259	0.00225649	-1.95388	1.606	0.00105193	-4.73992	0.165273	-1.51052	0.0395629
FAM64C	0.000151847	2.38455	0.199178	-1.30603	0.0221943	-1.99378	0.0140223	-3.11443	0.00470007	-4.75429
CLIC1	0.000165968	2.37452	0.190712	-1.34759	0.00943322	-2.04358	0.0146782	-3.19987	0.00188066	-4.85253
MICAL2	0.00527063	2.3108	0.068199	-2.29365	0.0181416	-3.84023	0.0234568	-5.30018	0.012336	-9.80002
UNKNOWN	0.00114806	2.27372	0.664192	1.046	0.043842	1.89092	0.0102888	-2.17373	0.37209	-1.20244
THBS1	0.00128369	2.22071	0.539797	-1.06979	0.00260658	-5.30129	0.0062272	-2.37571	0.000626317	-11.7726
ANKK1	0.00364447	2.15586	0.108782	-1.34387	0.889531	-1.02834	0.0107954	-2.8972	0.0596801	-2.21697
ANKAP2	0.00949222	2.14981	0.0447382	-1.69677	0.00869701	-2.31306	0.0196343	-5.64772	0.00040153	-4.97293
IGSF9B	0.0059778	2.14643	0.0288649	-1.60588	0.0798602	2.02718	0.0062955	-3.45483	0.77962	-1.05882
PTPRM	0.00797741	2.1391	0.0243441	-2.16065	0.00891706	-9.47301	0.00644218	-6.62186	0.00244364	-20.2638
JCSD1	0.00792942	2.09948	0.0397542	-1.28809	0.107469	-1.16643	0.00242313	-2.70432	0.00288626	-2.4489
ANKK1	0.00403359	2.09702	0.0493339	-1.36518	0.0374452	-1.79878	0.000701818	-2.85862	0.00751324	-3.76788
YARS	0.00214378	2.09481	0.42092	1.05589	0.758219	1.04693	0.00696937	-1.98393	0.0189785	-2.00091
CLIC1	0.00206263	2.07474	0.125021	-1.44159	0.0100777	-2.0698	0.0123989	-2.99093	0.00301585	-4.29431
GPRIN3	0.00580303	2.06225	0.202811	-1.13832	0.221458	-1.26223	0.000639582	-2.34749	0.0159104	-2.60303
SNORD115-11	0.000597972	2.01807	0.326499	-1.01373	0.00350397	1.89763	0.0102489	-1.59075	0.223474	-1.0691
ILEST	0.00356465	-2.02168	0.63256	1.11083	0.013613	2.85814	0.0319896	2.24575	0.00231292	5.77825
OCLR	0.000932905	-2.06016	0.623403	1.08672	0.335076	1.18123	0.0236452	2.23881	0.0152507	2.43662
OSBP1	0.00425357	-2.09942	0.543527	1.05539	0.028139	-2.05199	0.0147978	2.21571	0.075666	1.02311
SDK1	0.0038422	-2.12094	0.00377869	1.60841	0.0163392	2.24881	0.0014058	3.41134	0.00245489	-4.7896
C2orf67	0.00625527	-2.17733	0.625733	1.08461	0.293231	1.10665	0.0103956	2.36154	0.00681867	2.40953
EDAR	0.00829007	-2.20373	0.0674126	1.91592	0.0154425	2.20811	0.00718816	4.22218	0.00906716	4.86607
DEPDC7	0.00403787	-2.36577	0.108697	1.22587	0.0579152	1.84732	0.00766005	2.90012	0.0088158	3.89719
CYP2J2	0.00215069	-2.36721	0.68546	1.07188	0.169417	1.32641	0.0134624	2.53736	0.012163	3.1399
IGF1R	0.00274585	-2.38555	0.00118727	2.20018	0.18204	1.96741	0.00169582	5.25525	0.0339947	4.69926
LRRN1	0.00325955	-2.67153	0.000883301	1.81412	0.0244968	2.89665	0.000610973	4.84648	0.00324048	7.73848
CAMSAP1L1	0.00503477	-2.74164	0.142829	1.64365	0.125904	1.53688	0.0667792	1.66802	0.00865233	4.21304
TNFRD3T1	0.000189005	-2.79014	0.166291	1.16442	0.0876496	1.37686	0.00419686	3.2489	0.00471325	3.84162
KCNK5	0.00125711	-3.05317	0.0610743	1.31551	0.147051	1.8071	0.00202647	4.01648	0.0147442	5.51738
SLC40A1	0.00149271	-3.14034	0.0511072	-1.51702	0.0400159	1.71975	0.00605869	2.07008	0.00730159	5.40059
RBM11	0.000510298	-3.21077	0.246056	1.37006	0.039999	2.38066	0.0211581	4.38994	0.00603877	7.64375
MEST	0.00571298	-3.37228	0.28702	1.14307	0.14307	1.81005	0.0389158	5.83389	0.0100097	6.10399
NBEA	0.00532862	-3.62383	0.389431	1.0011	0.0101654	2.03419	0.00651575	3.62792	0.000182885	7.37175
PTPRK	0.00780948	-3.96543	0.256671	1.30618	0.0238035	1.70926	0.00866956	5.17956	0.00137403	6.77796
NRCAM	0.00183407	-8.8258	0.259817	1.92422	0.042739	2.54878	0.0140954	16.9828	0.00285062	22.495

Supplementary Table 5 Differentially regulated genes among TSCM and TCM

Gene Symbol	p-value(TSCM vs. TN)	Fold-Change(TSCM vs. TN)	p-value(TSCM vs. TCM)	Fold-Change(TSCM vs. TCM)	p-value(TSCM vs. TEM)	Fold-Change(TSCM vs. TEM)	p-value(TN vs. TCM)	Fold-Change(TN vs. TCM)	p-value(TN vs. TEM)	Fold-Change(TN vs. TEM)	p-value(TCM vs. TEM)	Fold-Change(TCM vs. TEM)
TMD4	0.392733	-1.1021	0.00292324	3.31465	0.0086716	6.46749	0.00800144	3.65306	0.002142	7.1278	0.0262516	1.95118
MYB	0.178035	1.33191	0.0098121	2.96185	0.0021667	8.68021	0.0373774	2.22376	0.00177171	6.51711	0.0249431	2.93668
FCER1G	0.880899	-1.02503	0.0060208	2.60439	0.0228718	3.11916	0.0225581	2.66957	0.0156817	3.19722	0.248259	1.19765
PPFIBP2	0.00970509	-1.78824	0.00974233	2.33102	0.00972407	3.1754	0.00200262	4.16844	0.00197413	5.6784	0.0140039	1.36224
IGF1R	0.00274585	-2.38855	0.00118727	2.20018	0.18204	1.96741	0.00169528	5.25525	0.0339947	4.69926	0.786129	-1.11832
HMGES3	0.0155736	1.68247	0.00382397	-2.02835	0.0018968	1.24741	0.00743696	-3.41264	0.0574914	-1.34878	0.00137723	2.53017
TGFBR3	0.0180451	2.41474	0.00718025	-2.10423	0.0198162	-3.37037	0.00900298	-5.08118	0.0055393	-8.13858	0.0801087	-1.60171
GLUL	0.104252	1.48133	0.00351802	-2.12636	0.0630072	-1.92767	0.00876766	-3.14984	0.00116078	-2.85552	0.565709	1.10307
CD58	0.00471822	4.26874	0.004396	-2.12697	0.00212238	-2.85231	0.000512353	-9.07948	0.0016947	-12.1758	0.041692	-1.34102
PHACTR2	0.0197976	2.12335	0.000158255	-2.3582	0.0214872	-2.98837	0.00483335	-5.00763	0.00266193	-6.34793	0.29189	-1.26765
SLFN11	0.00891487	1.35781	0.00878864	-2.61708	0.013494	-2.72891	0.00842128	-3.55351	0.012338	-3.70535	0.577454	-1.04273
DUSP4	0.0672968	3.447	0.00140747	-2.73593	0.0716567	-4.01946	0.0269673	-9.43073	0.0136127	-13.855	0.455959	-1.46914
IL9R	0.000425002	1.27573	0.0086405	-2.7395	0.0847807	-1.63759	0.00534571	-3.49486	0.0431312	-2.08912	0.113002	1.67289
IL9R	0.000425002	1.27573	0.0086405	-2.7395	0.0847807	-1.63759	0.00534571	-3.49486	0.0431312	-2.08912	0.113002	1.67289
HNRPLL	0.0320315	1.37181	0.00627977	-2.91008	0.0311274	-3.13523	0.00431571	-3.95206	0.0299005	-4.30053	0.743676	-1.07737
ALOX5AP	0.20606	-1.2352	0.0088366	-3.16399	0.0271138	-4.20016	0.0474545	-2.56151	0.0207969	-3.40037	0.418584	-1.32749
TOX	0.0455931	1.78642	0.00463429	-3.34874	0.0421255	-5.03344	0.00188422	-5.98227	0.0177365	-8.99186	0.268384	-1.50308
FAM129A	0.00416919	5.87993	0.00515485	-3.46155	0.0196464	-2.71332	0.00447987	-20.3637	0.00705909	-15.9542	0.205219	1.27576
PRRS4	0.0731053	2.12998	0.00842123	-4.34862	0.0242373	-8.68834	0.00203686	-9.25179	0.00894646	-18.5059	0.128653	-2.00025
CCR4	0.0113644	2.05957	0.0011714	-16.1374	0.202573	-2.67881	0.000864425	-33.236	0.0698114	-5.51719	0.9000197	6.02408

Supplementary Table 6 Differentially regulated genes among TSCM and TEM

Gene Symbol	p-value(TSCM vs. TN)	Fold-Change(TSCM vs. TN)	p-value(TSCM vs. TCM)	Fold-Change(TSCM vs. TCM)	p-value(TSCM vs. TEM)	Fold-Change(TSCM vs. TEM)	p-value(TN vs. TEM)	Fold-Change(TN vs. TEM)	p-value(TSCM vs. TEM)	Fold-Change(TSCM vs. TEM)	p-value(TN vs. TCM)	Fold-Change(TN vs. TCM)	p-value(TCM vs. TEM)	Fold-Change(TCM vs. TEM)
SEI	0.467595	1.0849	0.252693	1.13116	0.0045254	30.868	0.27387	1.02623	0.0082692	28.2452	0.0082692	28.2452	0.0082692	28.2452
DSCI1	0.178677	-1.39142	1.12244	1.86372	0.00361216	14.3566	0.0140565	2.73236	0.00138229	19.8765	0.0140565	2.73236	0.00138229	19.8765
MYB	0.178035	1.33191	0.0098121	2.96185	0.0021667	8.68021	0.0373774	2.22376	0.00177171	6.51711	0.0373774	2.22376	0.00177171	6.51711
LEF1	0.0150759	-1.23562	0.0885569	1.25608	0.00825779	7.34183	0.00538289	1.52024	0.00870699	5.84502	0.00538289	1.52024	0.00870699	5.84502
TMD4	0.392323	-1.1021	0.0232324	3.31465	0.0086716	6.46749	0.00090344	3.65330	0.002142	7.1276	0.0086716	6.46749	0.002142	7.1276
SESN3	0.0427483	2.57498	0.0819508	-1.17751	0.00157746	6.14378	0.028145	-0.33206	0.075412	2.38595	0.0819508	-1.17751	0.00157746	6.14378
LOC283174	0.0211947	3.17819	0.0940848	-1.66348	0.006709	5.00089	0.0213093	-5.28866	0.00691769	1.58612	0.0940848	-1.66348	0.006709	5.00089
HAVCR1	0.00757869	4.01234	0.0218798	2.5117	0.00951128	4.83783	0.128889	-1.59746	0.568285	1.20574	0.0218798	2.5117	0.00951128	4.83783
NO3	0.0287452	-2.36486	0.0183887	4.04517	0.00631113	4.43306	0.00513863	9.56667	0.00410394	10.4862	0.0183887	4.04517	0.00631113	4.43306
TFAB4	0.0431436	-1.75373	0.0655441	1.60411	0.00155366	4.20665	0.066558	2.81318	0.00135155	7.37381	0.0655441	1.60411	0.00155366	4.20665
SELP	0.000727813	1.73087	0.403103	-1.16541	0.00757484	4.03855	0.0339872	-2.01729	0.0247537	2.33311	0.403103	-1.16541	0.00757484	4.03855
CCNE1	0.0497242	1.19044	0.215854	1.50368	0.00666673	3.39942	0.339731	1.26313	0.0037024	2.8556	0.215854	1.50368	0.00666673	3.39942
OCM	0.358932	1.91035	0.488958	1.17453	0.0093928	3.22412	0.433706	1.1625	0.0019486	3.19109	0.488958	1.17453	0.0093928	3.22412
FAM153B	0.0406805	-1.42768	0.0890125	1.33303	0.00635873	3.1924	0.0602238	1.90314	0.00019142	4.55773	0.0890125	1.33303	0.00635873	3.1924
PPFBP2	0.00970509	-1.78824	0.00974233	2.33102	0.00972407	3.1754	0.00202022	4.16844	0.00197413	5.6784	0.00974233	2.33102	0.00972407	3.1754
OCM2	0.636401	-1.03388	0.332784	1.15258	0.00140659	2.93399	0.194078	1.19162	0.00060648	3.03338	0.332784	1.15258	0.00140659	2.93399
LRRIC16A	0.00114372	-1.69386	0.149153	1.33124	0.00836459	2.8304	0.0283534	2.25094	0.0027091	4.79292	0.149153	1.33124	0.00836459	2.8304
IGSF9B	0.00114372	2.44435	0.123321	-1.67205	0.000274191	2.79013	0.0181146	-4.08708	0.0036343	1.41146	0.123321	-1.67205	0.000274191	2.79013
ZC3H12D	0.0023819	1.77145	0.0584697	1.45599	0.000362854	2.6961	0.130573	-1.21667	0.00310587	1.52197	0.0584697	1.45599	0.000362854	2.6961
WNT7A	0.241275	1.11277	0.986515	1.00163	0.00381162	2.48233	0.132687	-1.11095	0.00113532	2.23077	0.986515	1.00163	0.00381162	2.48233
FAM117B	0.0543794	-1.23605	0.0076279	1.51866	0.00190752	2.4717	0.0117159	1.87701	0.0044003	3.05514	0.0076279	1.51866	0.00190752	2.4717
BEND5	0.0315357	-1.36523	0.280312	1.24888	0.00210697	2.47085	0.0382186	1.70501	0.00631391	3.37328	0.280312	1.24888	0.00210697	2.47085
PEL1	0.0717668	1.44276	0.0698226	1.42619	0.00116701	1.42619	0.807712	-1.01162	0.0278541	1.59437	0.0698226	1.42619	0.00116701	1.42619
LMO7	0.0232286	-1.5267	0.225677	1.34762	0.00494167	2.28789	0.0613674	2.05741	0.00105863	3.48293	0.225677	1.34762	0.00494167	2.28789
CEP88	0.25325	-2.5325	0.19398	1.40454	0.0035356	2.02826	0.0237201	1.30973	0.0030157	1.89134	0.19398	1.40454	0.0035356	2.02826
ZNF238	0.203962	-1.14016	0.0892134	1.14537	0.001317	2.1422	0.0017633	1.30591	0.00740518	2.52457	0.0892134	1.14537	0.001317	2.1422
C17orf48	0.0332872	-1.50435	0.134263	1.37629	0.00305636	2.19066	0.0474169	2.07043	0.00431586	3.29553	0.134263	1.37629	0.00305636	2.19066
MAP2D	0.00669663	-1.65528	0.0639104	1.25915	0.00269378	2.14859	0.0207445	2.08426	0.00104162	3.55207	0.0639104	1.25915	0.00269378	2.14859
ZSWIM1	0.331561	-1.12305	0.65809	1.03377	0.00997778	2.13007	0.110643	1.16097	0.028074	2.40228	0.65809	1.03377	0.00997778	2.13007
LDHB	0.119173	-1.11997	0.436715	1.40043	0.0026919	2.06819	0.127475	1.2768	0.00290202	2.31744	0.436715	1.40043	0.0026919	2.06819
BW2	0.517911	-1.04219	0.0504053	1.58478	0.00470697	2.06222	0.0446668	1.65163	0.00146712	2.14922	0.0504053	1.58478	0.00470697	2.06222
CRTG3	0.308414	1.07239	0.0640092	1.40454	0.0035356	2.02826	0.0237201	1.30973	0.0030157	1.89134	0.0640092	1.40454	0.0035356	2.02826
MXRA7	0.00530335	1.46491	0.0653788	-1.25857	0.00732335	-2.02843	0.0202662	-1.8437	0.00551716	-2.97148	0.0653788	-1.25857	0.00732335	-2.02843
CLC1	0.000165968	2.37452	0.190712	-1.34759	0.00943322	-2.04358	0.0148782	-3.19987	0.00188066	-8.52523	0.190712	-1.34759	0.00943322	-2.04358
NAT13	0.0372563	1.2115	0.108359	-1.36009	0.00380923	-2.05918	0.0406645	-1.64775	0.00778579	-2.49469	0.108359	-1.36009	0.00380923	-2.05918
TBC1D2B	0.271236	1.10663	0.0729759	-1.3252	0.00565301	-2.07807	0.114332	-1.4665	0.00240344	-2.29664	0.0729759	-1.3252	0.00565301	-2.07807
GLCC11	0.764555	-1.02064	0.0391198	-1.2114	0.00184141	-2.1114	-1.1869	0.00186222	-2.0687	0.0135549	-1.02064	0.0391198	0.00184141	-2.1114
DUSP10	0.0208958	3.10753	0.465729	-1.19387	0.00425221	-2.18633	0.0258939	-3.70999	0.00491971	-8.7941	0.465729	-1.19387	0.00425221	-2.18633
APOBEC3D	0.0449161	1.46258	0.0203188	-1.62894	0.00928018	-2.23181	0.00219252	-2.82321	0.018013	-3.2643	0.0203188	-1.62894	0.00928018	-2.23181
CACNB3	0.0702367	1.39541	0.0105111	-1.68772	0.00139565	-2.30777	0.0142975	-2.35507	0.00316527	-3.22203	0.0105111	-1.68772	0.00139565	-2.30777
ANXA2P2	0.00948222	2.14981	0.0447382	-1.69677	0.00899701	-2.31306	0.0198343	-3.64772	0.00840153	-4.97263	0.0447382	-1.69677	0.00899701	-2.31306
TPRG1	0.0385455	3.04857	0.0240551	-1.93644	0.00314364	-2.38539	0.00532254	-5.90336	0.00790788	-7.27204	0.0240551	-1.93644	0.00314364	-2.38539
EDMES	0.00150508	2.93308	0.241966	-1.57202	0.0064771	-2.45894	0.0324695	-4.61087	0.000904876	-7.21227	0.241966	-1.57202	0.0064771	-2.45894
MATK	0.0241342	1.77404	0.409541	-1.19423	0.00163301	-2.46351	0.0365457	-2.1186	0.00265222	-4.36504	0.409541	-1.19423	0.00163301	-2.46351
ARHGAP10	0.000465304	-1.2551	0.017977	-1.30638	0.00902164	-2.47104	0.824027	-1.04086	0.030575	-1.9688	0.017977	-1.30638	0.00902164	-2.47104
ADAM8	0.000465304	1.7226	0.00365572	-1.55274	0.00311766	-2.48769	0.00151303	-2.67476	0.00173831	-4.2853	0.00365572	-1.55274	0.00311766	-2.48769
MANN1	0.0176308	1.34504	0.117549	-1.16881	0.00675988	-2.58619	0.00189862	-1.5721	0.00121487	-3.47852	0.117549	-1.16881	0.00675988	-2.58619
SUFLN2L	0.0346639	1.69663	0.0983984	-1.46707	0.00282366	-2.75956	0.013792	-2.39997	0.0068414	-4.43911	0.0983984	-1.46707	0.00282366	-2.75956
SH2D2A	0.0120844	2.02574	0.0210689	-1.3314	0.00490969	-2.77655	0.00190058	-2.69706	0.0041498	-5.62456	0.0210689	-1.3314	0.00490969	-2.77655
EPF2C4	0.0545947	1.3672	0.0956482	-1.73684	0.00548232	-2.83673	0.00512464	-2.37324	0.0118463	-3.87839	0.0956482	-1.73684	0.00548232	-2.83673
CD58	0.00471822	4.26974	0.0430486	-2.12897	0.00212238	-2.85291	0.000512353	-8.07948	0.0016947	-12.1758	0.0430486	-2.12897	0.00212238	-2.85291
MYO1F	0.00583135	2.96301	0.052977	-1.62434	0.00853022	-2.88121	0.00792721	-4.80854	0.00106004	-8.52927	0.052977	-1.62434	0.00853022	-2.88121
RAB27B	0.0750696	1.49817	0.0762185	-2.24221	0.00881874	-2.99166	0.0518228	-3.33224	0.0203491	-4.8202	0.0762185	-2.24221	0.00881874	-2.99166
ERN1	0.0212688	1.91519	0.0200909	-2.03497	0.0073597	-3.0052	0.00386083	-3.89736	0.00518703	-5.75552	0.0200909	-2.03497	0.0073597	-3.0052
NPC1	0.0327133	1.63156	0.03474	-1.3467	0.00365103	-3.14888	0.0028624	-2.19723	0.00617869	-4.1376	0.03474	-1.3467	0.00365103	-3.14888
NBEAL2	0.0112494	2.22995	0.0163264	-2.38181	0.0025206	-3.34526	0.00274559	-5.31132	0.00177255	-7.45975	0.0163264	-2.38181	0.0025206	-3.34526
APOBEC3G	0.748311	-1.05882	0.0256601	-1.79605	0.00948943	-3.38529	0.0441537	-1.69612	0.00682943	-3.18684	0.0256601	-1.79605	0.00948943	-3.38529
SVTL2	0.571532	1.19733	0.739243	1.05275	0.00725533	-3.64016	0.443176	-1.13734	0.026762	-4.35846	0.739243	1.05275	0.00725533	-3.64016
SLC44A4	0.0318743	1.81279	0.238015	-1.28015	0.0089362	-4.22451	0.0245667	-2.32065	0.00986106	-7.65815	0.238015	-1.28015	0.0089362	-4.22451
UNKNOWN	0.0229876	1.56156	0.198417	-1.58827	0.00580939	-4.26118	0.0943508	-2.8018	0.00255969	-6.65407	0.198417	-1.58827	0.00580939	-4.26118
PIK3A1	0.005689	1.50323	0.217086	-1.42813	0.00931001	-4.40381	0.0597582	-2.14681	0.0036406	-6.61996	0.217086	-1.42813	0.00931001	-4.40381
PTGDR	0.0291546	1.58251	0.129484	-1.62677	0.00958246	-4.42195	0.0676344	-2.57438	0.00427871	-6.99778</				

Supplementary Table7 Differentially regulated genes among TN and TCM

Gene Symbol	p-value(TSCM vs. TN)	Fold-Change(TSCM vs. TN)	p-value(TSCM vs. TCM)	Fold-Change(TSCM vs. TCM)	p-value(TSCM vs. TEM)	Fold-Change(TSCM vs. TEM)	p-value(TN vs. TCM)	Fold-Change(TN vs. TCM)	p-value(TN vs. TEM)	Fold-Change(TN vs. TEM)	p-value(TCM vs. TEM)	Fold-Change(TCM vs. TEM)
NOG	0.00368	4.02611	0.02631	4.02611	0.00368	4.02611	0.00368	4.02611	0.00368	4.02611	0.00368	4.02611
SULT1B1	0.013697	-6.00719	0.189641	1.83317	0.0590558	4.04532	0.0037328	1.97002	0.00340866	20.2557	0.006361	2.20673
AK5	0.0143577	-6.69939	0.124661	1.81689	0.0836468	3.83549	0.0166457	8.53831	0.0148797	18.0244	0.012196	1.11101
UBE2E2	0.0538358	-2.75872	0.0251461	2.85764	0.0187504	4.51889	0.009456	7.88343	0.00665592	12.4666	0.272629	1.58137
CNR3	0.0029248	-3.72285	0.1144924	1.52673	0.0431262	1.97104	0.00169528	5.69889	0.0247773	7.3419	0.004702	1.29102
IGF1R	0.00274585	-2.38855	0.0018727	2.20018	0.18204	1.96741	0.00169528	5.25225	0.0399477	4.69926	0.017829	-1.11832
PTRK4	0.00780948	-3.96543	0.256571	1.30618	0.0238035	1.70926	0.00869596	5.17956	0.00137403	6.77796	0.118497	1.3086
PFT1	0.100588	-1.100588	0.232851	1.45724	0.145724	1.45724	0.00470538	5.0854	0.00202649	4.59146	0.002629	-1.08544
LRN1	0.0035955	-2.67153	0.00883301	1.80422	0.0244668	2.96665	0.00610973	4.84848	0.00324048	7.73484	0.0935411	1.59672
EDAR	0.0029007	-2.20373	0.0674126	1.91582	0.0154425	2.20811	0.00718816	4.22218	0.00906716	4.86607	0.560819	1.1525
PPFIB2	0.00970509	-1.78824	0.00974233	2.33102	0.00974207	3.1754	0.00200262	4.16844	0.00197413	5.6784	0.0140039	1.36224
KOR1L1	0.00192371	-3.08139	0.0619743	1.31591	0.147037	1.80715	0.00026547	4.01868	0.0141362	4.01868	0.0017328	1.37588
TMD4	0.392733	-1.1021	0.00292324	3.31465	0.0086716	6.46749	0.00080144	6.36306	0.002142	7.1278	0.0026216	1.95118
NBEA	0.00532862	-3.62393	0.989431	1.0111	0.0101654	2.03419	0.00851575	3.67292	0.000182885	7.37175	0.0241657	2.03195
CSG13	0.0194105	-2.23877	0.0233782	1.55373	0.0202631	1.2331	0.00215128	3.47719	0.012002	5.69633	0.246246	1.62857
SDK2	0.00385422	-2.12094	0.00377969	1.60841	0.0163392	2.24881	0.00140568	3.41134	0.00245489	4.7696	0.107115	1.39816
GJB6	0.00270628	-1.72597	0.012777	1.98545	0.0278187	3.10529	0.00262196	3.92931	0.00509916	5.39693	0.087846	1.57994
TXNRD3IT1	0.000190005	-2.79014	0.169291	1.16442	0.0876496	1.37686	0.00419666	3.2489	0.00471325	3.84162	0.424713	1.18244
FRK1	0.00226267	-1.49222	0.00412842	1.76267	0.00154491	1.80715	0.00026547	3.18622	0.008565	2.84134	0.289352	-1.06160
DEPDC7	0.00403787	-2.36577	0.108697	1.22587	0.0579152	1.64732	0.00766005	2.90012	0.00368158	3.20254	0.120476	1.3438
AGL3	0.000760132	-1.97854	0.0290301	1.36908	0.133105	1.64239	0.00215203	2.70878	0.0309627	3.24264	0.435133	1.19963
RTT2	0.370173	-1.19011	0.0219252	1.21913	0.0232657	3.55507	0.00455775	2.67628	0.00841658	4.5064	0.0101619	1.57736
FLNB	0.0030378	-1.47973	0.00134201	1.74924	0.0879198	2.04304	0.0039753	2.55841	0.0276962	3.20616	0.530926	1.16796
NUCB2	0.00210164	-1.50737	0.0402664	1.68997	0.0788336	1.79649	0.00895657	2.56089	0.0125546	2.70797	0.728696	1.0574
PAK1	0.00511423	-1.96047	0.134373	1.39019	0.134373	1.39019	0.00430618	1.99809	0.0078761	3.96919	0.00732972	-1.30502
PCP212923	0.00120439	-1.65745	0.0203792	1.47186	0.0203792	1.47186	0.00026547	2.45426	0.00841658	4.5064	0.006548	1.66812
GAL3ST4	0.00548412	-1.54171	0.0261167	1.5782	0.0112249	2.02833	0.0023375	2.43312	0.00645137	3.1271	0.180111	1.28522
ZSCAN23	0.0143943	-1.94941	0.153067	0.562503	1.12488	1.02488	0.007914	2.35955	0.0436762	3.20254	0.041305	-1.07602
ENPF2	0.0511156	-1.59999	0.0631318	1.45205	0.00720694	1.39241	0.00989807	2.32326	0.0140662	2.22784	0.71814	-1.04283
GATM	0.0444948	-1.60419	0.160419	1.43981	0.160419	1.43981	0.00454973	2.89743	0.00546918	2.67414	0.002497	1.15792
MAL	0.10662	-1.40875	0.0216165	1.63099	0.0195328	1.62687	0.00851417	2.29765	0.022314	8.81979	0.0541989	3.83871
LGMN	0.0237874	-1.94034	0.0509171	1.18355	0.0149549	2.4704	0.00601602	2.29649	0.0146204	4.79342	0.0346647	2.08728
TNFRSF10D	0.00111948	-1.71294	0.0314303	1.31773	0.0314303	1.31773	0.00026547	2.25719	0.00454973	2.67414	0.002497	1.15792
APBA2	0.0170104	-1.55431	0.11898	1.42467	0.0239041	3.26437	0.00945143	2.21437	0.021907	5.07394	0.021907	2.29132
GPR125	0.0127645	-2.0023	0.530861	1.10385	0.292232	1.20153	0.00710124	2.21025	0.00471349	2.40583	0.0254282	1.08849
CHML	0.0624947	-1.58437	0.116507	1.30888	0.160303	1.21007	0.00057928	2.12123	0.000721969	2.07564	0.602168	-1.02197
MAP2	0.00355274	-1.44622	0.00355274	1.44622	0.00355274	1.44622	0.00026547	1.20234	0.00026547	1.20234	0.00026547	1.20234
LAMP1	0.0066683	-1.65288	0.0636104	1.25916	0.00286378	2.1459	0.00274415	2.04826	0.00184182	3.55207	0.0270446	1.70423
SLC04A1	0.00149271	-3.14034	0.0511072	1.51702	0.0400159	1.71975	0.00605869	2.70808	0.00730159	5.40059	0.041444	2.60889
SNORD115-11	0.000226454	-1.97287	0.790166	1.01425	0.790166	1.01425	0.00026547	1.81534	0.00305121	-2.00998	0.0067969	1.84121
SNORD115-11	0.000226454	-1.97287	0.790166	1.01425	0.00287606	1.81534	0.00305121	-2.00998	0.170102	-1.08678	0.00967969	1.84121
SNORD115-11	0.000226454	-1.97287	0.790166	1.01425	0.00287606	1.81534	0.00305121	-2.00998	0.170102	-1.08678	0.00967969	1.84121
SNORD115-11	0.000226454	-1.97287	0.790166	1.01425	0.00287606	1.81534	0.00305121	-2.00998	0.170102	-1.08678	0.00967969	1.84121
SNORD115-26	0.00484848	-1.61825	0.0630041	1.24516	0.00995238	1.81534	0.00305121	-2.00998	0.0358888	-1.96728	0.785285	1.02425
EZR	0.0484848	-1.61825	0.0630041	1.24516	0.00995238	1.81534	0.00305121	-2.00998	0.0358888	-1.96728	0.785285	1.02425
FAM160B1	0.0304377	-1.28752	0.0105893	-1.57125	0.0535221	-1.86296	0.00195671	-2.02302	0.0295623	-2.39859	0.347706	-1.18565
SNORD115-12	0.000533272	-1.98743	0.0016327	1.80737	0.0029749	1.80737	0.0016327	1.80737	0.0016327	1.80737	0.0016327	1.80737
SNORD115-12	0.000533272	-1.98743	0.0016327	1.80737	0.0029749	1.80737	0.0016327	1.80737	0.0016327	1.80737	0.0016327	1.80737
SNORD115-12	0.000533272	-1.98743	0.0016327	1.80737	0.0029749	1.80737	0.0016327	1.80737	0.0016327	1.80737	0.0016327	1.80737
CLSTN3	0.00890614	-1.53534	0.0764763	-1.34947	0.0172097	-1.99453	0.00422362	-2.09646	0.00203957	-3.05895	0.00128991	-1.47801
MAP2B	0.0123566	-1.62356	0.0140103	1.23111	0.0024833	1.23111	0.0024833	1.23111	0.0024833	1.23111	0.0024833	1.23111
P2RY8	0.0123566	-1.62356	0.0140103	1.23111	0.0024833	1.23111	0.0024833	1.23111	0.0024833	1.23111	0.0024833	1.23111
DCBLD1	0.0101759	-1.96776	0.289785	-1.05735	0.015913	-1.61371	0.0031025	-2.08061	0.0204186	-1.79216	0.0085222	-1.52618
CHEK1	0.0267573	-1.24904	0.0118796	-1.5733	0.476676	-1.07928	0.0013551	-2.09602	0.0472281	-1.34807	0.0087354	1.55038
LRWD1	0.0162024	-1.72418	0.01768	1.29101	0.0024833	1.23111	0.0024833	1.23111	0.0024833	1.23111	0.0024833	1.23111
SNORD115-20	0.0124719	-1.86955	0.0625288	-1.13798	0.0198678	-1.57889	0.00300961	-2.12683	0.00608652	-1.96728	0.00608652	1.79675
FAM53B	0.0977467	-1.26095	0.00335127	-1.71551	0.0167665	-2.75586	0.00374111	-2.15316	0.00468793	-3.47499	0.051909	-1.60644
CTD8	0.002324	-1.602324	0.002324	-1.602324	0.002324	-1.602324	0.002324	-1.602324	0.002324	-1.602324	0.002324	-1.602324
ACTN4	0.0341505	-1.3467	0.0431144	-1.43993	0.00280679	-2.25365	0.00328851	-2.17523	0.00792453	-3.40448	0.042838	-1.56511
NPC1	0.0327133	-1.63156	0.0327133	-1.63156	0.0327133	-1.63156	0.0327133	-1.63156	0.0327133	-1.63156	0.0327133	-1.63156
SLCO3A1	0.0122288	-1.68259	0.0370251	-1.30839	0.400509	-1.15632	0.00227753	-2.20148	0.028378	-1.94361	0.446676	-1.33821
ITIH3	0.0576968	-1.58764	0.0467487	-1.01707	0.0467487	-1.01707	0.0467487	-1.01707	0.0467487	-1.01707	0.0467487	-1.01707
PAM	0.0199218	-1.75101	0.0916121	-1.29988	0.0086571	-1.18623	0.00160009	-2.27628	0.00563512	-2.9466	0.12893	-2.29408
CRM1	0.0135826	-1.72361	0.0611767	-1.32346	0.0490247	-1.85653	0.00257214	-2.29114	0.0189887	-5.4908	0.0454657	-1.40782
ITIH1	0.028303	-1.62803	0.00896909	-1.42349	0.00896909	-1.42349	0.00896909	-1.42349	0.00896909	-1.42349	0.00896909	-1.42349
ETV6	0.00191191	-1.84544	0.125118	-1.23921	0.15319	-1.09873	0.00512845	-2.28577	0.0112588	-1.67879	0.112754	1.36156
FTH1	0.00059882	-1.98908	0.0250916	-1.16223	0.737006	-1.04594	0.0012032	-2.29984	0.0260958	-2.08046	0.395706	1.05405
RAE27A	0.0120287	-1.78758	0.0435844	-1.28704	0.0435888	-1.81193	0.0059162	-2.30069	0.00578785	-3.22896	0.0602635	-1.40782
BMP1	0.0181887	-1.91587	0.18233	-1.29323	0.18233	-1.29323	0.0043014	-2.40029	0.0026762	-3.74662	0.031475	1.2116
ARHGAP18	0.017825	-1.75225	0.0205522	-2.52609	0.0047281	-2.30569	0.0047281	-2.30569	0.0143144	-4.42634	0.10009	-1.92141
MYO1C	0.0338759	-1.4657	0.0467768	-1.60886	0.279955	-1.31683	0.00411528	-2.34334	0.0380935	-1.91823	0.132464	1.22146
OPD3	0.0580303	-1.20832	0.0208									

NCAPH	0.00784854	2.76233	0.0144006	-3.90517	0.0420337	-2.74215	0.00124699	-10.7874	0.00519856	-7.57472	0.172949	1.42413
FAS	0.0038196	6.04861	0.0117875	-1.81016	0.1336	-2.04896	0.0048802	-10.949	0.0154631	-12.3994	0.675078	-1.13247
TIGIT	0.00145008	7.82949	0.0336596	-1.48894	0.470843	-1.31538	0.0032079	-11.7344	0.0164199	-10.2974	0.759548	1.13955
CDH1	0.079209	2.75838	0.0169505	-4.34523	0.134166	2.44033	0.00214294	-11.9858	0.371855	-1.13033	0.00539789	10.6038
EPHA4	0.000455354	10.3023	0.0555098	-1.45813	0.61964	-1.16331	0.00163882	-15.0221	0.0131437	-11.8947	0.332974	1.25344
ENTPD1	0.00890102	9.34916	0.252552	-1.69392	0.312745	1.86998	0.00815629	-15.8367	0.038338	-4.95456	0.026307	3.19539
FLI16686	0.0185017	3.67103	0.0446678	-4.34908	0.00743623	-7.45856	0.00430776	-15.9656	0.0102081	-27.3806	0.389456	-1.71497
FAM129A	0.00416919	5.87993	0.00515485	-3.46155	0.0196464	-2.71332	0.00447987	-20.3537	0.00705909	-15.9542	0.205219	1.27576
CS17	0.00403939	8.06281	0.0193134	-2.6812	0.0380605	-4.13029	0.00162365	-21.6716	0.00578962	-33.3843	0.372903	-1.54047
CCR4	0.0113644	2.05857	0.0011714	-16.1374	0.202573	-2.67881	0.00064425	-33.236	0.0698114	-5.51719	0.0901197	6.02408
CCL5	0.00444921	32.679	0.74343	-1.03011	0.00503524	-1.43937	0.0075545	-33.663	0.00295064	-47.0371	0.0771795	-1.39729
GZMK	0.00497381	75.0522	0.295884	-1.26205	0.693754	-1.17197	0.00929638	-94.7195	0.00826343	-87.9588	0.829096	1.07686

Supplementary Table 8 Differentially regulated genes among TN and TEM

Gene Symbol	p-value(TSCM vs. TN)	Fold-Change(TSCM vs. TN)	p-value(TSCM vs. TCM)	Fold-Change(TSCM vs. TCM)	p-value(TSCM vs. TEM)	Fold-Change(TSCM vs. TEM)	p-value(TN vs. TCM)	Fold-Change(TN vs. TCM)	p-value(TN vs. TEM)	Fold-Change(TN vs. TEM)	p-value(TCM vs. TEM)	Fold-Change(TCM vs. TEM)
SEI	0.00145361	1.113186	0.00249524	1.092654	0.00249524	1.092654	0.00249524	1.092654	0.00249524	1.092654	0.00249524	1.092654
NRCAM	0.00183407	-8.8258	0.259817	1.04222	0.254878	0.0140954	16.9828	0.00265062	22.49	0.384196	1.32458	
SUL1B1	0.0133697	-0.007019	0.189641	0.0590558	0.04532	0.00307328	9.17902	0.00340866	20.2557	0.006361	2.20673	
USC1	0.178877	-1.39142	0.12244	1.98372	0.00361216	14.3569	0.0140665	2.73236	0.0138929	19.8765	0.0126318	
NOG	0.00536838	0.0287452	0.0287452	0.0287452	0.00536838	0.0287452	0.00536838	0.0287452	0.00536838	0.0287452	0.00536838	0.0287452
LEF1	0.0150759	-1.23562	0.0585569	1.25608	0.00825779	7.34183	0.00538289	1.55204	0.00870699	9.0177	0.0170306	5.84502
LRRN1	0.0025955	-2.67153	0.00865301	1.81412	0.0244988	2.95665	0.00610973	4.84648	0.00324048	7.73848	0.0935411	1.59672
RRM11	0.000510298	-2.12077	0.246266	1.37006	0.039989	2.38066	0.0211581	4.39894	0.0063877	7.64375	0.0376119	1.73763
TFAB4	0.0431436	-1.75373	0.354641	1.60411	0.00155366	0.066558	2.81318	0.00135155	7.37381	0.112897	2.62117	
NBEA	0.00632862	-3.62393	0.989431	1.0011	0.0101654	2.03419	0.00851575	3.2792	0.00162885	7.37175	0.0241657	2.03195
TM64	0.392733	-1.1021	0.0202324	3.31465	0.00987478	6.49749	0.00591748	3.55306	0.0021242	7.1279	0.0265116	1.95116
KRT73	0.495482	-1.12752	0.0640508	3.25343	0.0173855	6.18711	0.0165664	3.66831	0.0026775	6.9761	0.0140205	1.90172
PTPRK	0.00780948	-3.96543	0.255671	1.30618	0.0238035	1.7026	0.00866956	5.17956	0.00174703	6.7796	0.118497	1.3086
MYB	0.178035	1.33191	0.0098121	2.96185	0.0021667	8.68021	0.0373774	2.22376	0.00177171	6.51711	0.0249431	2.93068
TSN2	0.168897	1.41768	0.817598	1.85455	0.0167533	9.00871	0.188864	1.51076	0.00243364	6.34273	0.0038939	9.61255
LLEST	0.00356465	-2.02168	0.63256	1.11083	0.013613	2.85814	0.0310896	2.24575	0.00231292	5.77825	0.00792746	2.57297
PFPIBP2	0.00970509	-1.78824	0.00974233	2.33102	0.00972407	3.1754	0.00202062	4.16844	0.00197413	5.6784	0.0140039	1.36224
SLC40A1	0.00149271	-3.14034	0.0011072	1.51702	0.0400159	1.71975	0.00606869	2.07008	0.00730159	5.40059	0.0414414	2.60889
CLB8	0.00279628	-1.72597	1.85455	0.0278187	3.10529	0.00281196	3.38231	0.00909166	5.39663	0.087846	1.57894	
EPHA2	0.13694	-1.78258	0.822686	1.06706	0.0362708	2.78694	0.0846608	1.90212	0.00371172	4.88474	0.0124686	2.61179
BCL9	0.0356847	-2.22703	0.75678	1.04818	0.0486984	2.19311	0.0126126	2.33433	0.000248249	4.96121	0.0233955	2.0923
LOC203007	0.00282007	-2.37345	0.0674129	1.81592	0.0145922	1.53689	0.00918213	1.222123	0.00985253	4.86607	0.558919	1.1525
LRRIC16A	0.001273	1.69086	0.149743	1.33124	0.00630459	2.8346	0.0285334	2.25094	0.0027091	4.79292	0.021877	1.2193
SDK2	0.00385422	-2.12094	0.00377969	1.60841	0.0163392	2.24881	0.0014058	3.41134	0.00245489	4.7696	0.105115	1.39816
TFP1	0.100588	-2.18429	0.0382623	2.33351	0.145724	2.14324	0.00470538	5.08814	0.00202649	4.68146	0.0641129	1.98445
LOC1219293	0.00210438	-1.82461	0.0203782	1.22049	1.471826	0.0176268	1.652626	0.0024526	4.25626	0.0019212	1.3438	
FAM153B	0.0406805	-1.42768	0.0801025	1.23203	0.00635873	3.1924	0.0602238	1.90314	0.00191942	4.55773	0.017118	1.39648
CHMP7	0.00585986	-1.63599	0.107089	1.38895	0.010149	0.68467	0.0021927	2.27231	0.00410468	4.34909	0.0088347	1.93287
KRT72	0.370173	-1.19011	0.0219252	2.19113	0.0328657	3.65507	0.00455275	2.80769	0.00369687	4.39295	0.068548	1.66812
CAM5AP1L	0.00504477	-1.82461	0.143872	1.24829	0.143872	1.24829	0.143872	1.24829	0.143872	1.24829	0.143872	1.24829
STXBP1	0.0427608	-1.19438	0.0405117	1.48229	0.0115778	3.52381	0.021094	1.70592	0.00822834	4.20853	0.0429125	2.46701
PTK2	0.0143369	-1.81875	0.509117	1.21728	0.0257068	2.29919	0.1655636	1.49411	0.00554016	4.18165	0.059478	2.79876
SLC7A8	0.0134083	-3.38121	0.0213103	1.72541	0.472553	1.18727	0.0131946	5.83397	0.00582696	4.0144	0.305484	1.45326
DEPTOR	0.02403787	-1.82461	0.198697	1.22049	0.0079152	1.64732	0.0038132	3.24899	0.00471123	4.0144	0.305484	1.45326
TNFRSD3T1	0.000190095	-2.79014	0.189291	1.16442	0.087616	1.37686	0.00419666	3.24899	0.00471123	4.0144	0.305484	1.45326
ANKRD31	0.0107563	-2.47482	0.347277	1.13348	0.0117014	1.529	0.0137527	2.80515	0.00297852	3.78399	0.157542	1.34894
RAG1-DOA	0.0022467	-1.85745	0.139197	1.36197	0.0144406	1.91972	0.00389121	1.92514	0.00389121	1.92514	0.00389121	1.92514
MAP1D	0.00666863	-1.65528	0.0636104	1.25916	0.00286378	1.2459	0.00274415	2.08426	0.0184182	3.55207	0.0270446	1.70423
LMO7	0.0293286	-1.52677	0.225677	1.34762	0.00344167	2.28789	0.0613674	2.05741	0.01058639	3.49233	0.127921	1.69773
GNAA1	0.197769	-2.24082	0.224082	1.41091	0.0233441	1.73246	0.0373971	2.79304	0.00686893	3.42627	0.286304	1.22719
NBEADS	0.00153587	-1.85745	0.288912	1.24829	0.028912	1.64829	0.0083186	1.70351	0.00193765	4.25626	0.0192944	1.39244
ZNF135	0.0272928	-2.11507	0.270104	1.32684	0.0844529	1.5702	0.0356079	2.81016	0.00140868	3.32107	0.0451786	1.18181
FAM153C	0.125067	-1.49591	0.0180384	1.35104	0.0312979	2.20418	0.0350747	2.02103	0.00370561	3.29277	0.011817	1.63147
CT10r48	0.0333272	-1.50435	0.134263	1.37629	0.0030536	2.19066	0.0474169	2.07043	0.0431266	3.29253	0.0374965	1.59171
HALL2	0.102917	-1.82461	0.079931	1.39811	0.0145922	1.53689	0.00918213	1.222123	0.00985253	4.86607	0.558919	1.1525
TMEM220	0.0269253	-2.05968	0.11197	1.52774	0.126272	1.54176	0.0136092	3.14667	0.00523471	3.17554	0.081964	1.00917
GALNT4	0.00548412	-1.54171	0.0281167	1.5782	0.0112249	2.02833	0.0023375	2.43312	0.00431507	3.17271	0.180511	1.28622
FAM153B	0.0392869	-1.12708	0.0392869	1.39197	0.0145922	1.53689	0.00918213	1.222123	0.00985253	4.86607	0.558919	1.1525
RAG1-DOA	0.0022467	-1.85745	0.139197	1.36197	0.0144406	1.91972	0.00389121	1.92514	0.00389121	1.92514	0.00389121	1.92514
FAM117B	0.0543794	-1.23605	0.0578279	1.51856	0.0010752	2.4717	0.0117159	1.87701	0.0044003	3.05514	0.0679078	1.62766
OCM2	0.638401	-1.03388	0.332784	1.15258	0.00140589	1.95989	0.194078	1.19162	0.00606448	3.03338	0.00741561	2.54558
UNKNOOWN	0.0036385	-1.98901	0.544015	1.49524	0.013613	2.85814	0.0310896	2.24575	0.00231292	5.77825	0.00792746	2.57297
PIM2	0.0058341	-1.5372	0.0450077	1.32401	0.0199871	1.95277	0.0100162	2.03066	0.00362373	2.99501	0.0570805	1.47489
CCNE1	0.0497242	-1.19044	0.215854	1.50368	0.00666673	3.39942	0.339731	1.26313	0.0037024	2.8556	0.0277398	2.26704
PRAGMIN	0.00226267	-1.8922	0.00412842	1.76287	0.0015417	1.67908	0.00129176	3.01662	3.06E-05	2.84134	0.280812	1.06169
CT10r10	0.0244945	-1.85745	0.139197	1.36197	0.0144406	1.91972	0.00389121	1.92514	0.00389121	1.92514	0.00389121	1.92514
RGM8	0.0786522	-1.42335	0.10852	1.0667371	1.94006	0.0813559	1.35253	0.00822602	2.76137	0.0012346	2.04166	
ZNF542	0.0457114	-1.56389	0.09343	1.00112	0.0157788	1.71632	0.031475	1.56564	0.0040627	2.68413	0.00931137	1.71439
ANKRD48	0.0130358	-1.42981	0.1033581	1.24829	0.0130358	1.24829	0.0130358	1.24829	0.0130358	1.24829	0.0130358	1.24829
GIPC3	0.601321	-1.05807	0.0215355	1.75881	0.0270911	2.51613	0.0508373	1.86096	0.00624043	2.66225	0.179056	1.43058
DCBLD2	0.0164805	-1.71595	0.0652256	1.24426	0.0226018	1.52325	0.0118073	2.13508	0.0064452	2.61227	0.0027104	1.2235
OLFML2	0.023851	-1.76899	0.789233	-1.03761	0.0206346	1.47238	0.0124655	1.70488	0.0074539	2.60403	0.0391888	1.52775
RAG1-DOA	0.0022467	-1.85745	0.139197	1.36197	0.0144406	1.91972	0.00389121	1.92514	0.00389121	1.92514	0.00389121	1.92514
HLA-DQA	0.0204796	-1.69044	0.100695	1.15947	0.002569	1.51637	0.0163763	1.96419	0.00419019	2.5688	0.0208659	1.30782
ZNF238	0.203962	-1.14016	0.0821234	1.14537	0.001317	2.21422	0.0217633	1.30591	0.00740518	2.5457	0.0098159	1.93319
CEP85	0.25325	-1.10398	0.816954	1.02029	0.00213062	2.26061	0.431534	1.12707	0.00878429	2.49566	0.00222545	2.12429
NCRNA00185	0.00147766	-1.85745	0.139197	1.36197	0.0144406	1.91972	0.00389121	1.92514	0.00389121	1.92514	0.00389121	1.92514
PTIPN2	0.0144766	-1.3772	0.0565731	1.52133	0.00746167	1.76753	0.0236995	2.09518	0.0097077	2.42424	0.0286166	1.16183
PRKAR1B	0.0393905	-1.34666	0.106756	1.53396	0.043761	1.80251	0.0238064	2.06752	0.00333212	2.42737	0.165213	1.17507
C20orf67	0.0062527	-1.07733	0.625733	1.08461	0.0233221	1.10665	0.0103956	2.36154	0.0081867	2.40953	0.009819	1.02332
RPL125	0.0172945	-1.02923	0.172945	1.02923	0.0172945	1.02923	0.0172945	1.02923	0.0172945	1.02923	0.0172945	1.02923
SGTB	0.120704	-1.20704	0.207798	1.1307	0.00171385	1.97479	0.0301383	1.36848	0.000819015	2.38365		

ACOT9	0.002024	1.95583	0.326282	-1.10728	0.0100305	-1.57221	0.00444024	-2.16565	0.00101711	-3.07499	0.0458664	-1.41989
METRNL	0.0315461	2.93453	0.576408	-1.10963	0.750361	-1.06907	0.0106401	-3.25623	0.00119388	-3.17421	0.702667	1.03794
BMP1R1A	0.0019376	1.7922	0.355192	-1.3362	0.0025175	-1.78118	0.00014383	-2.79676	0.00021412	-3.74442	0.037475	-1.33401
LRIG1	0.00893925	2.58571	0.085408	-1.36406	0.0297177	-1.23479	0.00323754	-3.52707	0.00466887	-3.1928	0.25104	1.1047
APOBEC3G	0.748311	-1.05892	0.0256601	-1.78605	0.00948943	-3.38529	0.0441537	-1.89612	0.00682943	-3.19848	0.0500511	-1.88485
CACNB3	0.0702267	1.39541	0.0105111	-1.68772	0.00130522	-2.30777	0.0142975	-2.35507	0.00316527	-3.2203	0.028163	-1.36739
RNF19A	0.00487637	1.79001	0.0864489	-1.46405	0.00646492	-1.80421	0.00759114	-2.62067	0.00155449	-3.22956	0.132191	-1.23234
RAB27A	0.0120287	1.78758	0.0435844	-1.28704	0.0453868	-1.81193	0.00639162	-2.30069	0.00578785	-3.28924	0.0605235	-1.40782
FADS3	0.0712811	1.77896	0.0451474	-1.67029	0.0310213	-1.82114	0.0358407	-2.97137	0.00214633	-3.23973	0.660151	-1.09031
ACTN4	0.0241505	1.51055	0.0431144	-1.43993	0.0280679	-2.25365	0.00928651	-2.17523	0.00702453	-3.40448	0.042688	-1.56511
TBKP1	0.00239856	1.80721	0.501156	-1.09357	0.0241556	-1.9014	0.0160235	-1.97631	0.00195502	-3.48223	0.0995403	-1.73871
FAM53B	0.0977467	1.26095	0.00335127	-1.71551	0.0167665	-2.75586	0.00374111	-2.16316	0.00468793	-3.74499	0.051909	-1.60644
MAN1A	0.0176308	1.34504	0.117549	-1.16881	0.00675998	-2.59619	0.00188922	-1.5721	0.00121467	-3.47852	0.00220774	-2.21266
FAM38A	0.0236923	2.03902	0.0119389	-1.57233	0.0115776	-1.71683	0.00567471	-3.20444	0.00197659	-3.49892	0.260166	-1.0919
GRFL1	0.0819647	1.19111	0.00823955	-1.56666	0.0164551	-2.69819	0.0130592	-2.0534	0.00124872	-3.5522	0.045307	-1.73332
B4GALT5	0.264966	1.23818	0.183681	-1.1777	0.0174164	-2.9681	0.0228849	-1.45821	0.0011094	-3.67257	0.00662494	-2.51855
WIP1	0.0265406	1.54537	0.0694513	-1.31069	0.0125226	-2.37265	0.01252	-2.02944	0.00330716	-3.67373	0.057474	-1.81022
DUSP2	0.00432637	1.76475	0.105221	-1.79914	0.0241188	-2.13124	0.0263586	-3.17504	0.00572672	-3.76111	0.203041	-1.18458
UNKNOWN	0.282598	1.29783	0.0132068	-1.03054	0.0132068	-2.89842	0.18418	-1.33746	0.0039006	-3.76125	0.0140347	-2.81253
ANKA5	0.0487483	1.47546	0.154798	-1.62814	0.017857	-2.55025	0.0522389	-2.40225	0.00942268	-3.76278	0.0388949	-1.56636
AHNAK	0.00403359	2.09702	0.0493339	-1.36318	0.0374452	-1.79678	0.000191818	-2.85862	0.00751324	-3.76788	0.121815	-1.31808
CLIC1	0.00333307	1.87803	0.195357	-1.42148	0.0225686	-2.04491	0.0221552	-2.66959	0.00300364	-3.80441	0.0665079	-1.43588
MAP3K5	0.0223524	2.21064	0.209135	-1.15874	0.00591493	-1.77036	0.00180736	-2.56157	0.00911751	-3.91363	0.0457219	-1.52783
STES1A	0.00777112	3.9827	0.122733	-1.34792	0.7017	-1.04361	0.0031738	-5.36836	0.000483408	-4.1564	0.127185	1.29159
TARP	0.151806	1.17291	0.0590849	-1.07804	0.0152693	-3.64367	0.324498	-1.26444	0.00190662	-4.27368	0.0174563	-3.37391
ADAM8	0.000465304	1.7226	0.00365572	-1.55274	0.00311766	-2.48769	0.00151303	-2.67476	0.00173831	-4.2853	0.00411283	-1.60213
CLIC1	0.00206263	2.07474	0.125021	-2.0698	0.0100777	-2.0698	0.0123889	-2.99093	0.00301585	-4.28431	0.0694171	-1.43578
MAIK	0.0241342	1.77404	0.409541	-1.19423	0.00163301	-2.46051	0.0365457	-2.1186	0.00205422	-4.36304	0.0344578	-2.06034
SLFN12L	0.0346539	1.60953	0.0863894	-1.46707	0.00235666	-2.76966	0.013792	-2.35297	0.00689414	-4.43911	0.065267	-1.891
PIK3R3	0.253422	1.22671	0.00628986	-1.38821	0.0363201	-3.67104	0.0738368	-1.70293	0.00809574	-4.50331	0.0718519	-2.64444
FAM46C	0.000151847	2.38455	0.199178	-1.30603	0.0221943	-1.99378	0.0140223	-3.1143	0.00470007	-4.74229	0.0481726	-1.5266
C1	0.00165965	1.9252	0.160715	-1.34358	0.00943528	-2.34358	0.0174676	-2.82533	0.00162867	-4.82523	0.016448	-1.51648
ANKA2	0.00944822	2.14981	0.0447382	-1.69677	0.00869701	-2.31306	0.0198343	-3.17423	0.00840153	-4.97263	0.0141684	-1.36522
CTNNA1	0.0389416	1.60943	0.111984	-1.44082	0.0199904	-3.19215	0.0200334	-2.3189	0.00382756	-5.13752	0.0027605	-2.3815
NPC1	0.0327133	1.63156	0.03474	-1.3467	0.00365103	-3.14888	0.00828624	-2.19723	0.00617869	-5.1376	0.020795	-2.23221
ADRX2	0.00120844	1.46537	0.114046	-1.34693	0.00623767	-4.67704	0.0531329	-2.5997	0.0033705	-5.13798	0.011066	-2.52836
ERNA	0.0125268	1.91519	0.0200908	-2.03407	0.0073597	-3.0052	0.00386083	-3.89736	0.00518703	-5.5552	0.178128	-1.47678
YPEL1	0.0695082	1.89975	0.0215944	-1.69428	0.0348141	-3.15733	0.0286234	-3.2187	0.00851851	-5.98913	0.16276	-1.86352
TBXT2	0.00152381	2.97171	0.240503	-1.10384	0.035002	-2.05205	0.00727051	-3.27971	0.00657339	-6.09809	0.0585335	-1.85934
CDM	0.0029587	1.60953	0.0424174	-1.20337	0.0344485	-1.94075	0.00065977	-3.78073	0.00695307	-6.09809	0.0387652	-1.61694
PHACTR2	0.0197976	2.1235	0.000158255	-2.3582	0.0214872	-2.99937	0.00426335	-2.89937	0.00266193	-6.34793	0.02189	-2.6765
GBP5	0.0171298	2.40454	0.560373	1.06214	0.0169404	-2.71925	0.0392015	-2.26386	0.000116626	-6.53855	0.0258359	-2.89823
ADRX1	0.00747854	1.46537	0.114046	-1.34693	0.00623767	-4.67704	0.0531329	-2.5997	0.0033705	-6.53928	0.011066	-2.52836
UNKNOWN	0.00117643	2.91816	0.652053	-1.09569	0.095773	-2.2674	0.0319668	-3.19739	0.00805024	-6.16665	0.146589	-2.06939
PIK3AP1	0.005689	1.50323	0.217086	-1.42813	0.00931001	-4.40381	0.0597582	-2.14681	0.0036406	-6.61996	0.045906	-3.03862
UNKNOWN	0.0229876	1.56156	0.198417	-1.58827	0.00580939	-4.26118	0.0943058	-2.48018	0.00255969	-6.64029	0.106231	-2.8629
DUSP10	0.0220658	3.10753	0.465729	-1.19387	0.00425221	-2.18533	0.0289338	-3.70399	0.00491971	-6.7941	0.114225	-1.3313
PTGDR	0.00291546	1.58251	0.129484	-1.62677	0.00952846	-4.42195	0.0676344	-2.57438	0.00427871	-6.99778	0.0970549	-2.71823
EOMES	0.00150508	2.93308	0.241966	-1.57202	0.0064771	-2.48984	0.0324695	-4.41087	0.000904876	-7.21227	0.319225	-1.56419
MAF	0.0354317	1.60456	0.0264973	-2.64936	0.0098329	-4.4993	0.00614224	-4.25105	0.00113806	-7.21937	0.0197814	-1.69826
TSPG1	0.0385455	0.94057	0.0240551	-1.93644	0.00314364	-2.38539	0.0053254	-5.93536	0.00709768	-7.27294	0.0660552	-1.23185
NBEAL2	0.0112494	2.22995	0.0163264	-2.38181	2.52E-06	-3.34526	0.00274559	-5.31132	0.00177255	-7.49375	0.0948669	-1.4045
NCAPI	0.00784854	2.76233	0.0144006	-3.90517	0.0420337	-2.74215	0.00124699	-10.7874	0.00519856	-7.57472	0.172949	1.42413
SLOC44	0.0318743	1.81279	0.238015	-1.28015	0.0089362	-4.22451	0.0245667	-3.23605	0.00986106	-7.65614	0.0522746	-3.30001
FOSL2	0.00301153	3.85086	0.0217722	-1.41245	0.0299182	-2.00316	0.00034848	-5.58039	0.0019427	-8.02086	0.0019427	-1.43733
RG52	0.022378	3.9777	0.366924	-1.159616	0.159616	-2.0389	0.00542704	-4.88297	0.00386204	-8.11014	0.100037	-1.6609
TGFB3	0.0180451	2.41474	0.00718025	-2.10423	0.0198162	-3.37037	0.00900298	-5.08118	0.00555393	-8.13858	0.0801087	-1.60171
MYO1F	0.00563135	2.98031	0.052077	-1.62434	0.00853022	-2.88121	0.00792721	-4.80854	0.00160004	-8.52927	0.019711	-1.77378
C17orf66	0.0376484	3.78024	0.186116	-1.38676	0.11911	-2.32949	0.0122284	-5.24228	0.000938591	-8.80602	0.17538	-1.67981
CYTH3	0.00253907	1.48984	0.0198375	-2.97485	0.007553	-6.02106	0.0136016	-4.43219	0.00431021	-8.97041	0.142238	-2.02392
WEI1	0.0016158	4.14954	0.0407973	-2.13723	0.063864	-2.35598	0.00363499	-8.8688	0.00964717	-9.77624	0.527878	-1.10236
PYHIN1	0.0171511	5.12975	0.109847	-1.32085	0.158648	-1.91206	0.00781467	-6.77429	0.0119598	-9.80649	0.25848	-1.4476
F2R	0.00489907	5.44255	0.353924	-1.39095	0.0147183	-2.17584	0.0395073	-6.18487	0.00305018	-9.83877	0.326577	-1.56428
UNKNOWN	0.147581	2.14897	0.0981469	-2.98607	0.00273673	-8.00644	0.0427356	-3.72354	0.00709793	-9.98378	0.173715	-2.68126
TARP	0.0192343	2.09912	0.0329152	-1.40936	0.0132221	-4.93237	0.00481382	-2.95841	0.00119677	-10.3345	0.0134388	-3.93327
TBS1	0.00128369	2.22071	0.539797	-1.08979	0.00269698	-5.30128	0.006272	-2.37571	0.000629317	-11.7726	1.84E-05	-4.95642
CD58	0.00471822	4.26874	0.004386	-2.12697	0.00212238	-2.85231	0.000512353	-9.07948	0.0016947	-12.15788	0.041692	-1.34102
UNKNOWN	0.0323405	2.37392	0.189769	-1.39528	0.00247522	-5.34257	0.00350993	-3.31227	0.001112961	-12.6828	0.0085749	-3.82904
AUTS2	0.0381008	1.65322	0.016258	-2.49284	0.0098942	-8.96817	0.00056275	-4.22058	0.0015602	-15.1851	0.00715705	-3.59786
FAM128A	0.00416919	5.87953	0.00515485	-3.46155	0.0196464	-2.71332	0.00447987	-20.3537	0.00709509	-15.9542	0.205219	1.27576
TNIP3	0.0221607	3.32963	0.00242619	-1.7967	0.0487888	-3.08583	0.0110076	-9.57576	0.00687684	-16.4463	0.14262	-1.7175
GZMA	0.0285766	3.13224	0.0424644	-1.85988	0.0489932	-5.5604	0.0299847	-8.82559	0.00545218	-17.4165	0.170594	-2.89966
PRXSL	0.0731053	2.12985	0.0642123	-3.43862	0.0242373	-8.88834	0.0020686	-9.25179	0.0094646	-18.5059	0.126653	-2.00025
PRDM1												

Supplementary Table 9 Differentially regulated genes among TCM and TEM

Gene Symbol	p-value(TSCM vs. TN)	Fold-Change(TSCM vs. TN)	p-value(TSCM vs. TCM)	Fold-Change(TSCM vs. TCM)	p-value(TSCM vs. TEM)	Fold-Change(TSCM vs. TEM)	p-value(TN vs. TCM)	Fold-Change(TN vs. TCM)	p-value(TN vs. TEM)	Fold-Change(TN vs. TEM)	p-value(TCM vs. TEM)	Fold-Change(TCM vs. TEM)
SELL	0.487505	1.06449	0.232693	1.13116	0.00459254	30.0668	0.272967	1.06263	0.00859592	28.2452	0.0026915	26.5806
CDH1	0.079209	2.75838	0.0169505	-4.34523	0.134166	2.44033	0.00214294	-1.19858	0.371855	-1.13033	0.00539789	10.6038
TSHZ2	0.168897	1.41554	0.877598	-1.06727	0.0127453	9.00671	0.188064	-1.51076	0.00243344	6.36273	0.0038939	9.61255
SESN3	0.0427483	2.57498	0.0819508	-1.17751	0.00157746	6.14378	0.028145	-3.03206	0.075412	2.38995	0.00102589	7.23433
IL6T	0.00356465	-2.02168	0.53256	1.11083	0.013613	2.85814	0.0316966	2.24675	0.00231292	5.77825	0.00792746	2.57297
KIAA0748	0.0304212	-1.1488	0.733517	1.0488	0.0176314	2.67605	0.203334	1.20486	0.00918107	3.07426	0.00748204	2.55155
OCM2	0.636401	-1.03388	0.332784	1.15258	0.00140659	2.93399	0.194078	1.19162	0.000606448	3.03338	0.00741561	2.54558
HMGGB3	0.0155736	1.68247	0.00862397	-2.02835	0.0018988	1.24741	0.00743596	-3.41264	0.0574914	-1.34878	0.00137723	2.53017
WNT7A	0.241275	1.11277	0.986515	1.00163	0.00381162	2.48233	0.13267	-1.11055	0.0113532	2.23077	0.0107343	2.47828
CEP68	0.25325	-1.10398	0.805954	1.02092	0.00213062	2.26061	0.431534	1.12707	0.00878429	2.49566	0.0022545	2.21429
SULT1B1	0.0133697	-5.00719	0.189641	1.83317	0.0590558	4.04532	0.00307328	9.17902	0.00340866	20.2557	0.006361	2.20673
C16orf45	0.0565525	1.55575	0.996177	1.00061	0.0247002	2.09759	0.0675954	-1.55479	0.0526339	1.34628	0.00630052	2.0963
SFXN1	0.0327926	1.17265	0.151773	-1.15786	0.0185127	1.78087	0.0237491	-1.35776	0.0253302	1.57867	0.00087825	2.062
RGMB	0.0786522	-1.42335	0.10852	-1.05236	0.00667371	1.94006	0.0813559	1.35253	0.00822602	2.76137	0.00712346	2.04164
SH2D2A	0.0120844	2.02574	0.0210689	-1.3314	0.00490969	-2.77655	0.00190058	-2.89706	0.0041498	-5.62456	0.00923322	-2.08544
GALNT10	0.0988905	1.1232	0.0988945	1.27651	0.0417848	-1.65646	0.391697	1.1365	0.050958	-1.87064	0.0161641	-2.12597
OSBPL5	0.00425357	-2.09942	0.543527	1.05539	0.028139	-2.05199	0.0147978	2.21571	0.875666	1.02311	0.0545625	-2.16566
MAN1A1	0.0176308	1.34504	0.117549	-1.16881	0.00675898	-2.58619	0.00188692	-1.5721	0.00121487	-3.47852	0.00220774	-2.21266
CTNNA1	0.0389416	1.60943	0.111984	-1.44082	0.0199904	-3.19215	0.0200334	-2.3189	0.00382756	-5.13752	0.00927605	-2.2155
B4GALT5	0.264966	1.23816	0.183661	-1.1777	0.0174164	-2.3661	0.0228849	-1.45821	0.0011084	-3.67257	0.00662494	-2.18555
FASLG	0.429314	1.05158	0.045263	-2.30097	0.0168423	-5.82944	0.0530057	-2.41965	0.0203691	-6.25228	0.0032631	-2.57694
AUTS2	0.0381008	1.69322	0.018258	-2.49264	0.00988942	-8.96817	0.000658275	-4.22058	0.00175802	-15.1851	0.00715705	-3.59786
MYBL1	0.0069762	3.93023	0.0403337	-1.57598	0.0143397	-5.95765	0.000569471	-6.19395	0.00138638	-23.4149	0.00287117	-3.78029
UNKNOWN	0.0323405	2.37392	0.189769	-1.38528	0.00247522	-5.34257	0.00350993	-3.31227	0.00112961	-12.8828	0.00855749	-3.82904
GALNT3	0.0749899	1.25115	0.56637	-1.11177	0.0328758	-5.20491	0.259545	-1.391	0.035054	-6.51215	0.0094753	-4.68164
THBS1	0.00128369	2.22071	0.539797	-1.08979	0.00260658	-5.30128	0.0062272	-2.37571	0.000626317	-11.7726	1.84E-05	-4.95542
GNLY	0.133864	1.92029	0.0312633	-2.30714	0.00939853	-15.0732	0.0672597	-4.43037	0.0119439	-28.3449	0.0080462	-6.53329
ST8SIA6	0.470914	1.12935	0.0933289	-2.44753	0.0141034	-16.9712	0.114817	-2.76411	0.022599	-19.1663	0.00395659	-6.93401

Supplementary Methods

Enumeration of adoptively transferred T cells into NSG mice. CD8-enriched PBMC were sorted into T_N , T_{SCM} , T_{CM} and T_{EM} . CD8⁻ PBMC resulting from the negative selection of CD8⁺ T cells were stained with FITC anti-CD8 Ab and sorted on a FACS Aria to avoid any possible contamination by remaining CD8⁺ T cells. We adoptively transferred via i.v. injection at least 5×10^6 CD8⁻ PBMC with or without 10^6 sorted subset-specific T cells per mouse. Three replicate mice received the same T cell subset to avoid variability due to the inefficiency of the engraftment. Mice were sacrificed five weeks after adoptive transfer. Spleen, liver, lungs and LN were minced and meshed on the top of a 100 μ m cell strainer (BD Biosciences); total bone marrow was obtained by flushing the femurs with Hank's balanced salt solution. Mononuclear cells were then isolated by Ficoll gradient centrifugation. Cell suspensions were stained with ViViD as described above and with a cocktail of fluorescently-conjugated mAbs directed to surface antigens, including Cy7PE rat anti-mouse CD45 (mCD45) and Cy5PE mouse anti-human CD45 (hCD45) to detect both mouse and human cells, respectively. To determine the total live cell count, aliquots of cells were resuspended in a solution containing ethidium bromide and acridine orange (Invitrogen), and counted using a Cellometer (Nexcelom Biosciences). Total cell counts per single organ were calculated as the number of live mCD45⁺ and hCD45⁺

cells in the lymphocyte gate. Complete Blood Counts (NIH Clinical Laboratory) revealed the number of circulating cells in the blood.

Determination of telomerase activity

Telomerase activity was evaluated using TRAPeze Telomerase Detection Kit (EMD Millipore). Quantification of the amount of telomerase product was determined using the following formula:

$$\text{TPG (units)} = [(x - x_0) / c] / [(r - r_0) / c_R] \times 100$$

x = TRAP product ladder bands from all non-heat-treated samples; x_0 = TRAP product ladder bands from all heat-treated samples; r = TSR8 quantitation control; r_0 = primer-dimer/PCR contamination control; c = internal standard (S-IC) in non-heat-treated samples; c_R = internal standard (S-IC) in TSR8 quantitation control. Each unit of TPG corresponds to the number of TS primers (in 1×10^{-3} a mole or 600 molecules) extended with at least 4 telomeric repeats by telomerase in the extract in a 30 minute incubation at 30 °C.

Full gene names of selected transcripts

LEF1, lymphoid enhancer-binding factor 1; *ACTN1*, actinin, alpha 1; *FOXPI*, forkhead box P1; *IL6ST*, interleukin 6 signal transducer (gp130, oncostatin M receptor); *LASS6*, LAG1 homolog, ceramide synthase 6; *TAF4B*, TAF4b RNA

polymerase II, TATA box binding protein (TBP)-associated factor, 105kDa; *EOMES*, eomesodermin; *GZMA*, granzyme A (granzyme 1, cytotoxic T-lymphocyte-associated serine esterase 3); *TBX21*, T-box 21; *PRF1*, perforin 1 (pore forming protein); *PRDM1*, PR domain containing 1, with ZNF domain; *KLRG1*, killer cell lectin-like receptor subfamily G, member 1; *ALOX5AP*, arachidonate 5-lipoxygenase-activating protein; *TGFBR3*, transforming growth factor, beta receptor III; *PHACTR2*, phosphatase and actin regulator 2; *FAM129A*, family with sequence similarity 129, member A; *CD58*, CD58 molecule; *TOX*, thymocyte selection-associated high mobility group box; *HNRPLL*, heterogeneous nuclear ribonucleoprotein L-like; *SLFN11*, schlafen family member 11; *DUSP4*, dual specificity phosphatase 4; *PRR5L*, proline rich 5 like; *GLUL*, glutamate-ammonia ligase; *IL9R*, interleukin 9 receptor; *HMGB3*, high mobility group box 3; *CCR4*, chemokine (C-C motif) receptor 4; *MYB*, v-myb myeloblastosis viral oncogene homolog (avian); *TIMD4*, T-cell immunoglobulin and mucin domain containing 4; *PPFIBP2*, PTPRF interacting protein, binding protein 2 (liprin beta 2); *FCER1G*, Fc fragment of IgE, high affinity I, receptor for; gamma polypeptide; *IGF1R*, insulin-like growth factor 1 receptor.

Supplementary references

1. Romero, P. *et al.* Four functionally distinct populations of human effector-memory CD8⁺ T lymphocytes. *J. Immunol.* **178**, 4112-4119 (2007).