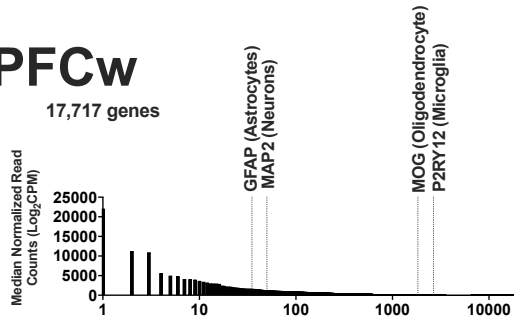


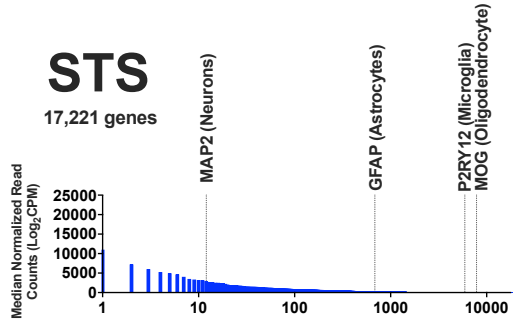
PFCw

17,717 genes



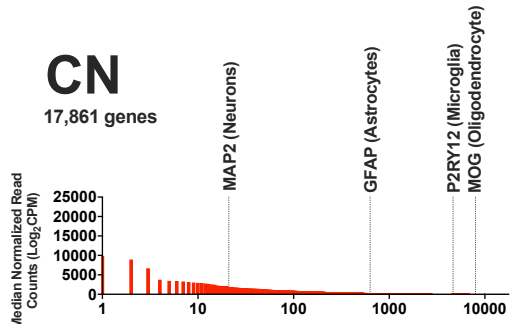
STS

17,221 genes



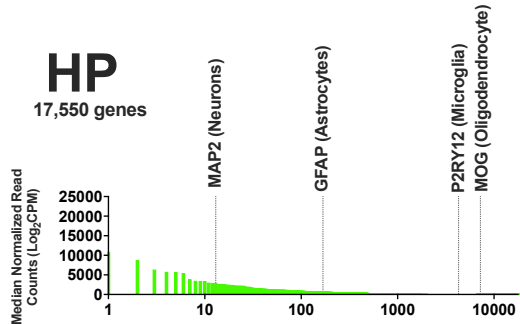
CN

17,861 genes

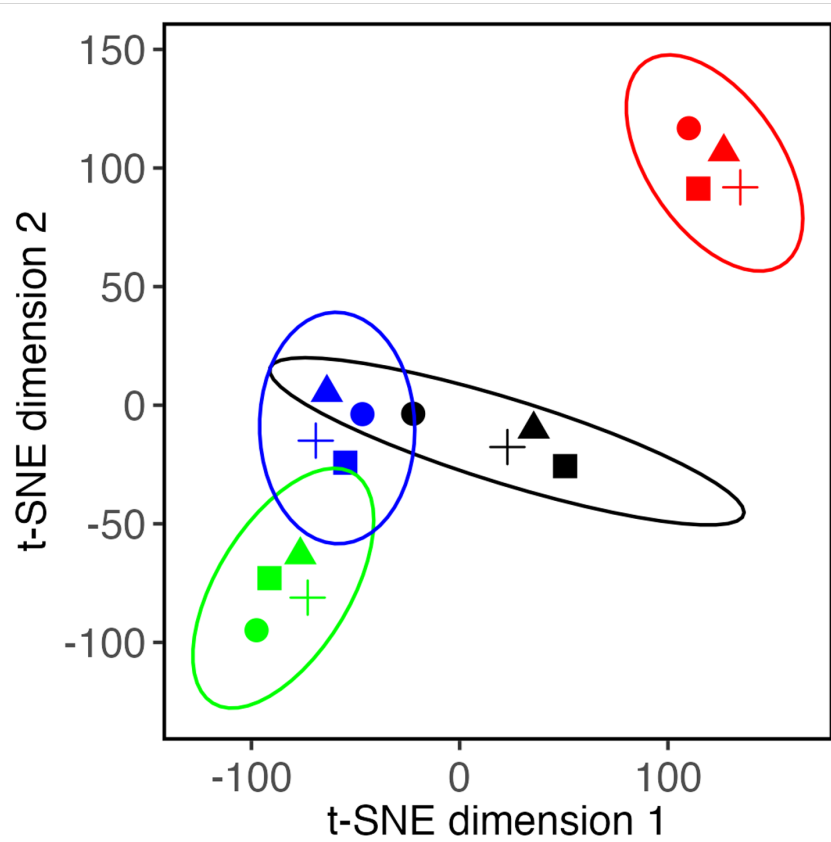


HP

17,550 genes



Ranked Genes

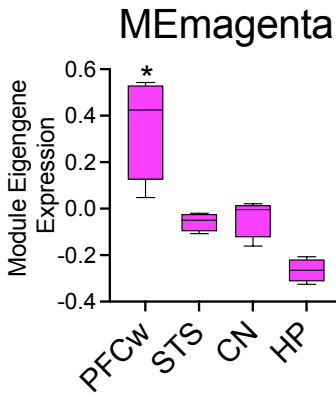


Animal

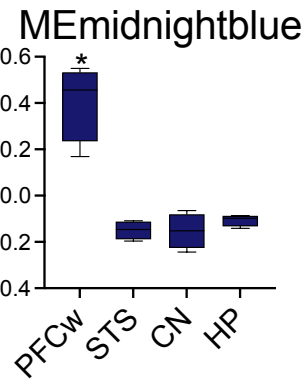
- 43361
- ▲ 44003
- 44288
- + 45821

Brain Region

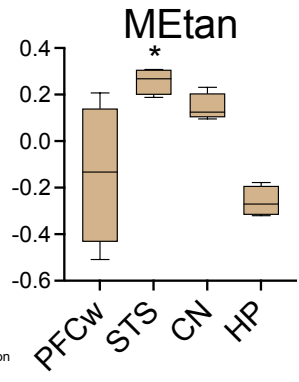
- Pre-frontal cortex white matter
- Caudate Nucleus
- Hippocampus
- Superior Temporal Sulcus



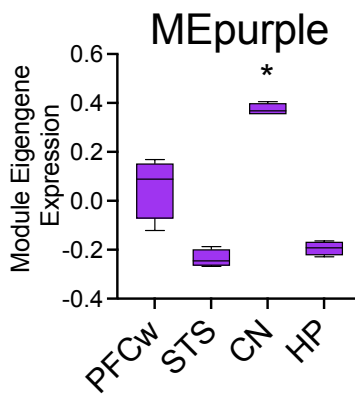
- cellular response to glucocorticoid stimulus
- nucleosome mobilization
- RNA metabolic process
- microvillus organization
- response to antineoplastic agent
- negative regulation of cellular component organization
- amyloid-beta clearance
- regulation of extrinsic apoptotic signaling pathway via death domain receptors
- dendritic transport
- axo-dendritic protein transport
- negative regulation of extrinsic apoptotic signaling pathway
- regulation of RNA metabolic process
- apical junction assembly
- regulation of macromolecule biosynthetic process
- response to arsenic-containing substance



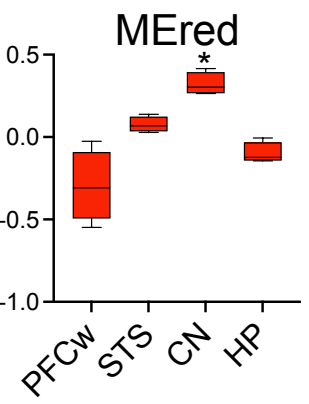
- positive regulation of dendritic spine development
- N-glycan fucosylation
- positive regulation of L-glutamate import across plasma membrane
- regulation of dendritic spine maintenance
- arsonoacetate metabolic process
- activation of cysteine-type endopeptidase activity involved in apoptotic process by cytochrome c
- negative regulation of core promoter binding
- Cajal-Retzius cell differentiation
- regulation of granulosa cell apoptotic process
- negative regulation of nucleotide-binding oligomerization domain containing 2 signaling pathway
- smooth endoplasmic reticulum calcium ion homeostasis
- positive regulation of amyloid fibril formation
- negative regulation of monocyte chemotactic protein-1 production
- negative regulation of mitochondrial depolarization
- synaptic vesicle targeting



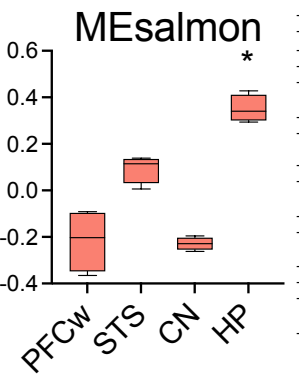
- mechanosensory behavior
- cation transport
- neuron projection arborization
- regulation of ketone biosynthetic process
- regulation of cholesterol metabolic process
- calcium ion-regulated exocytosis of neurotransmitter
- cellular response to calcium ion
- release of sequestered calcium ion into cytosol
- metal ion transport
- neutral lipid metabolic process
- acylglycerol metabolic process
- rhythmic behavior
- circadian behavior
- circadian temperature homeostasis
- protein demalonylation



- spermatogenesis
- DNA methylation involved in gamete generation
- auditory receptor cell morphogenesis
- cochlea development
- neural precursor cell proliferation
- stem cell proliferation
- cellular response to amino acid stimulus
- cellular response to organonitrogen compound
- insulin receptor signaling pathway
- positive regulation of mRNA splicing, via spliceosome
- regulation of neural precursor cell proliferation
- response to amino acid
- regulation of cell shape
- mucopolysaccharide metabolic process
- eye development

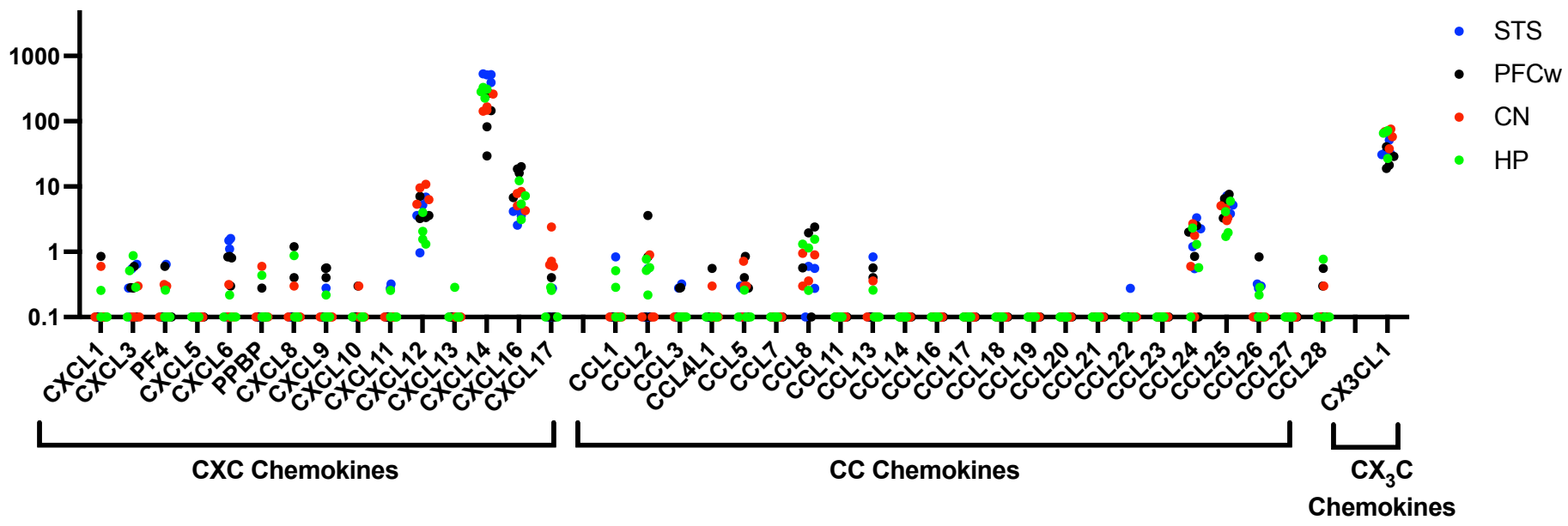


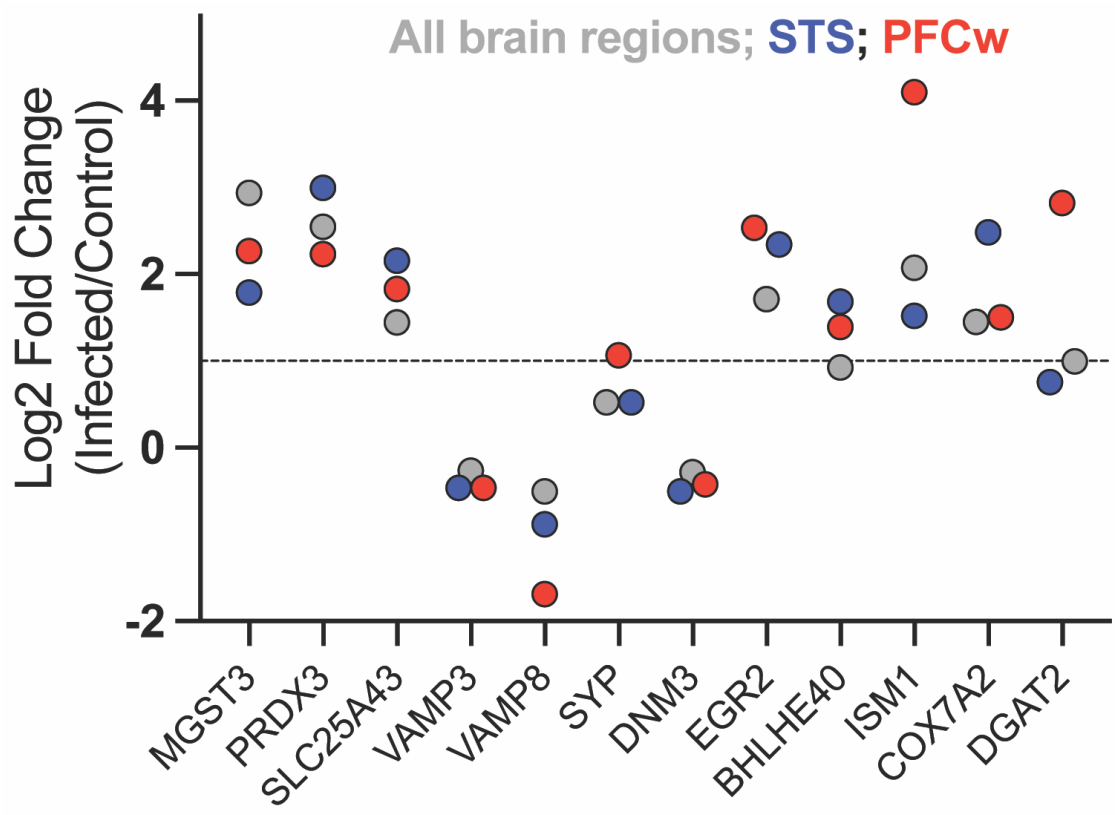
- modulation of chemical synaptic transmission
- neutrophil extravasation
- postsynaptic neurotransmitter receptor diffusion trapping
- monocyte extravasation
- calcium ion transport
- inorganic cation transmembrane transport
- cellular response to hormone stimulus
- heme biosynthetic process
- ATP metabolic process
- neurotransmitter transport
- cellular response to glucose stimulus
- cellular respiration
- adenylyate cyclase-activating dopamine receptor signaling pathway
- negative regulation of transcription by RNA polymerase III
- presynaptic modulation of chemical synaptic transmission

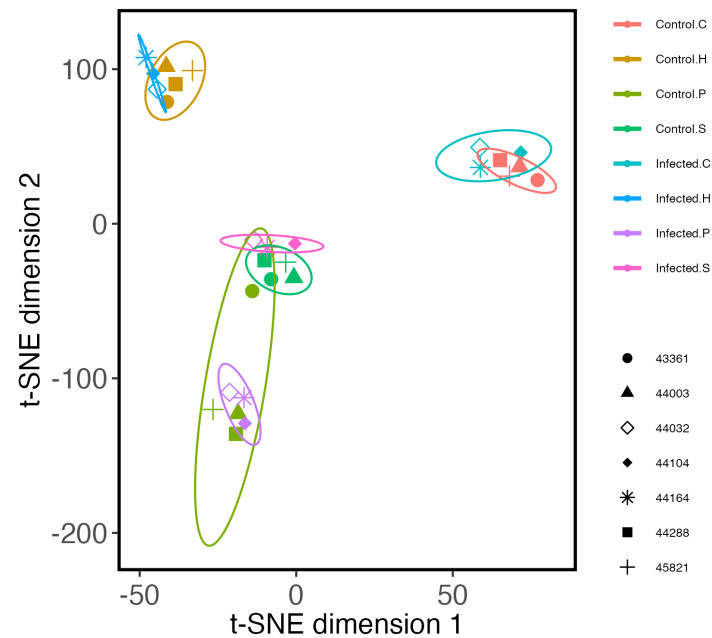
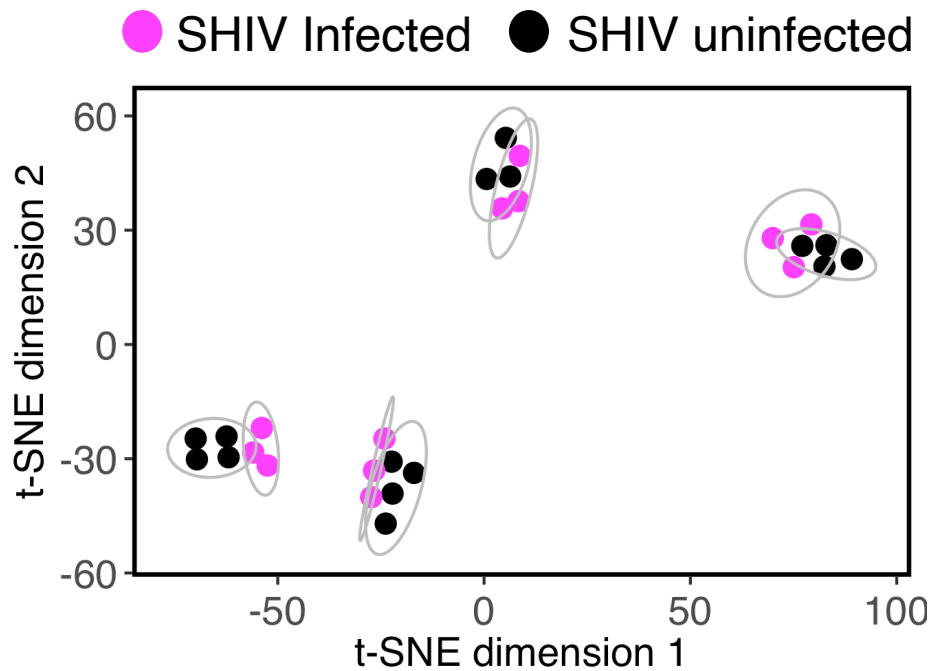


- psychomotor behavior
- social behavior
- neuron projection development
- synaptic vesicle priming
- regulation of cell morphogenesis involved in differentiation
- microtubule polymerization
- positive regulation of protein modification by small protein conjugation or removal
- long-term memory
- regulation of microtubule polymerization or depolymerization
- negative regulation of endothelial cell proliferation
- positive regulation of substrate adhesion-dependent cell spreading
- positive regulation of transferase activity
- synaptic vesicle lumen acidification
- cerebral cortex GABAergic interneuron development
- nonassociative learning

Normalized Read Counts (Log₂CPM)

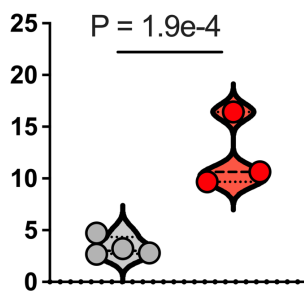




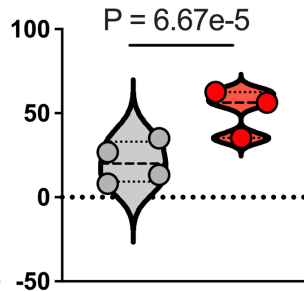


Normalized Read
Counts

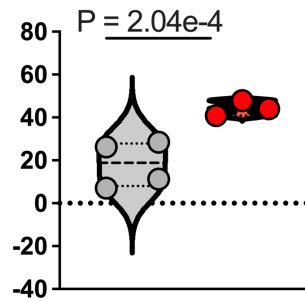
SLC6A11



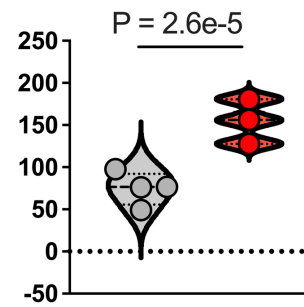
SLC32A1



MANF



ATP5MC3



ATP6AP2

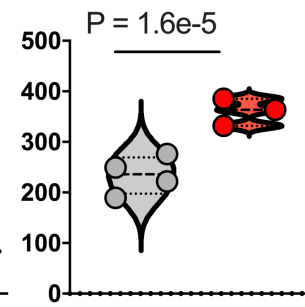


Table S1. Animal/Sample Data

Animal ID	Sample ID	SHIV Exposed	Sex	Age (years.months)	Med cull	Code	Brain tissue	Tissue weight (mg)	A260/A280	A260/A230	Total RNA conc (ug)
43361	SI61	No	M	6.6	Right leg lameness	SI61S-1	Superior Temporal Sulcus	74.0	2.06	2.24	25.74
						SI61H-2	Hippocampus	114.2	2.08	2.27	39.16
						SI61C-3	Caudate Nucleus	91.6	2.09	2.22	33.06
						SI61P-4	PFC A46 (w)	53.5	2.07	2.27	22.96
45821	SI21	No	F	3.6	Arthritis	SI21S-5	Superior Temporal Sulcus	124.8	2.10	2.30	53.59
						SI21H-6	Hippocampus	50.5	2.10	2.25	31.2
						SI21C-7	Caudate Nucleus	65.6	2.11	2.28	34.23
						SI21P-8	PFC A46 (w)	39.5	2.10	2.07	15.3
44003	SI03	No	F	5.11	Arthritis	SI03S-9	Superior Temporal Sulcus	84.2	2.10	2.31	50.42
						SI03H-10	Hippocampus	76.7	2.09	1.86	30.45
						SI03C-11	Caudate Nucleus	90.1	2.09	1.96	32.4
						SI03P-12	PFC A46 (w)	72.3	2.05	2.13	16.8
44288	SI88	No	F	5.9	Diarrhea	SI88S-13	Superior Temporal Sulcus	104.2	2.07	2.27	33.58
						SI88H-14	Hippocampus	83.9	2.07	2.28	29.11
						SI88C-15	Caudate Nucleus	104.5	2.08	2.25	31.01
						SI88P-16	PFC A46 (w)	69.8	2.06	2.15	9.89
44164	SI64	Yes	F	5.5	Euthanasia 4 weeks post SHIV	SI64S-17	Superior Temporal Sulcus	40.2	2.05	2.12	19.8
						SI64H-18	Hippocampus	50.4	2.07	2.20	27.57
						SI64C-19	Caudate Nucleus	35.9	2.06	1.89	20.32
						SI64P-20	PFC A46 (w)	26.7	2.07	2.22	14.45
44104	SI04	Yes	F	5.2	Euthanasia 4 weeks post SHIV	SI04S-21	Superior Temporal Sulcus	52.3	2.08	2.30	29.22
						SI04H-22	Hippocampus	43.3	2.06	2.29	21.26
						SI04C-23	Caudate Nucleus	47.2	2.07	2.37	21.64
						SI04P-24	PFC A46 (w)	17.0	2.08	2.18	9.6
44032	SI25	Yes	F	5.6	Euthanasia 4 weeks post SHIV	SI32S-25	Superior Temporal Sulcus	46.5	2.07	2.24	21.56
						SI32H-26	Hippocampus	54.3	2.06	2.20	23.57
						SI32C-27	Caudate Nucleus	40.6	2.08	2.22	19.22
						SI32P-28	PFC A46 (w)	43.5	2.06	2.21	20.06

Table S3 Flow Cytometry Reagents

Reagent	Fluorochrome	Clone	Catalog no.	Source
PD-1	PE-Cy7	EH12.2H7	329918	Biolegend
CD3	AF700	SP34-2	557917	BD Biosciences
CD4	BV650	L200	563737	BD Biosciences
CD8	BV510	SK1	563919	BD Biosciences
CD20	BV421	2H7	302328	Biolegend
CD95	BUV 737	DX2	564710	BD Bioscience
Live/Dead	APC-Cy7		L34976	Life Technologies
CXCR3	APC	IC6	550967	BD Biosciences
CD45	AF-488	HI30	557803	BD Biosciences
CD11b	BV-510	ICRF44	563088	Thermofisher
HLA-DR	BV-785	L243	307642	Biolegend
CCR6	PE-Dazzle	G034e3	353430	Biolegend
Cytofix/cytoperm			51-2090KZ	BD Biosciences