SUPPLEMENTAL FIGURE LEGENDS

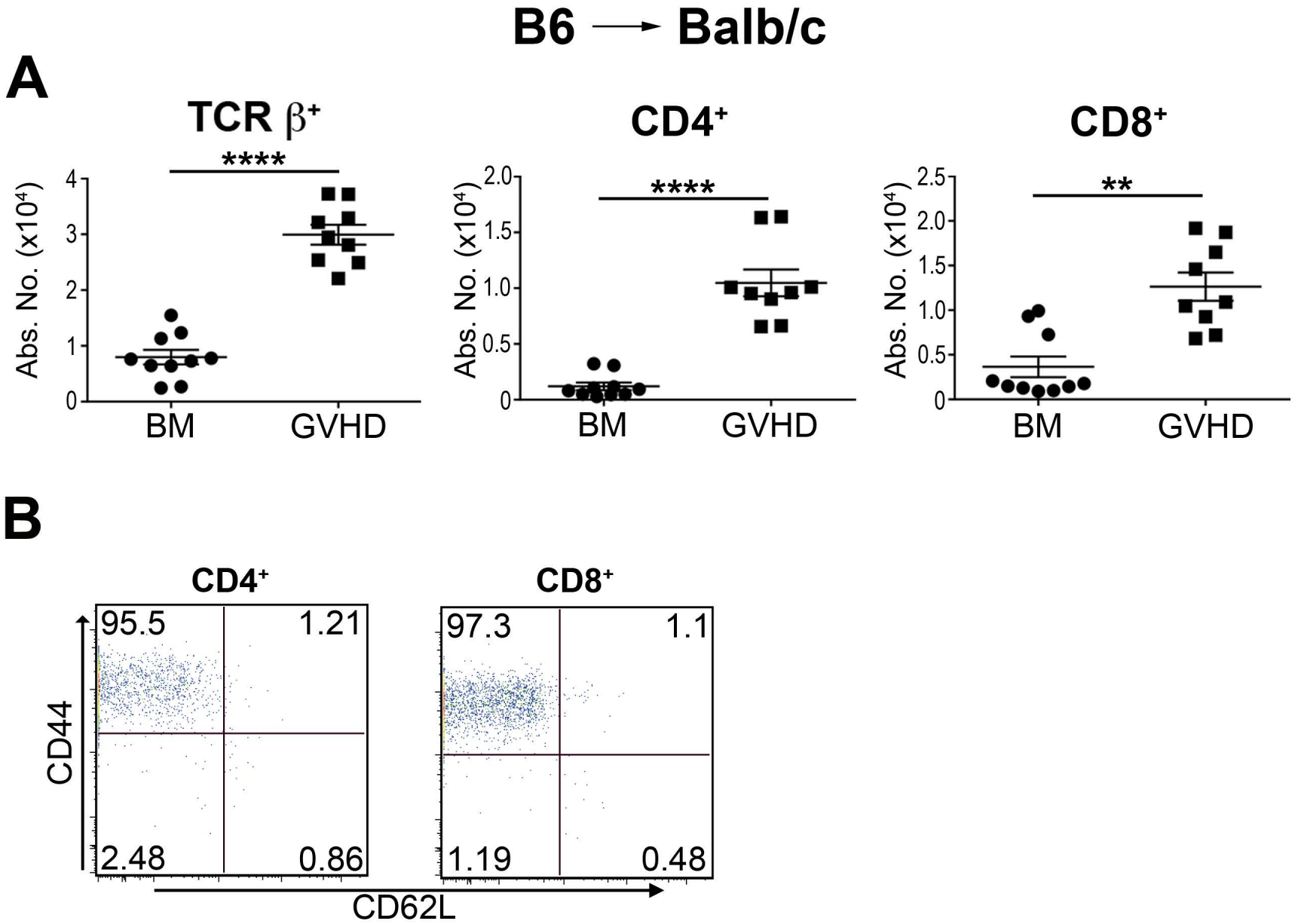
Supplemental Figure 1: **Donor T cell accumulation in the brains of GVHD mice 6 weeks post transplantation.** (A). Lethally irradiated (900c cGy) Balb/c recipients were transplanted with B6 BM alone (●, n=10) or B6 BM and B6 spleen cells (adjusted to yield an αβ T cell dose of 0.4 x10^6 cells) (■, n=9). The absolute number of donor-derived TCRβ$^+$, CD4$^+$ and CD8$^+$ T cells in the brain 42 days post transplantation is depicted. (B). Representative dot plot depicting CD44 and CD62L expression on CD4$^+$ and CD8$^+$ T cells from the brains of GVHD mice. Statistically significant differences were calculated using the two-tailed Mann Whitney U test. Statistics: **p<0.01, ****p<0.0001.

Supplemental Figure 2: **Inflammation in the brain during GVHD is not strain-dependent.** (A). Irradiated (1100 cGy) B6 mice transplanted with B10.BR BM alone (●, n=7) or together with B10.BR spleen cells (adjusted to yield an αβ T cell doses of 4.5 x 10^6 cells) (■, n=8). The absolute number of donor-derived TCRβ$^+$, CD4$^+$ and CD8$^+$ T cells in the brain 7 and 14 days post transplantation is shown. (B). IFN-γ, TNFα, and IL-6 mRNA expression in the brains of B6 mice transplanted with B10.BR BM alone (●, n=7) or B10.BR BM and B10.BR spleen cells (■, n=8) 14 days post transplantation. Statistically significant differences were calculated using the two-tailed Mann Whitney U test. Statistics: ** p<0.01, ***p<0.001.

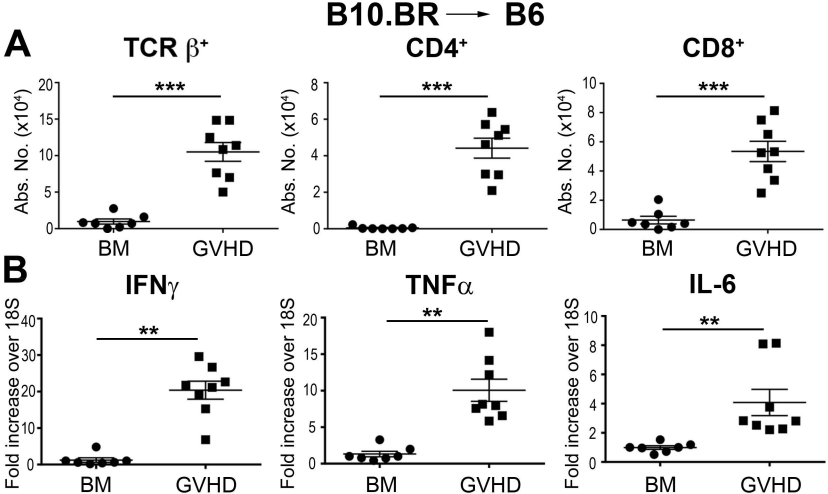
Supplemental Figure 3: **Pathway for the metabolism of tryptophan to kynurenic metabolites.** 3-hydroxyanthranilic acid has been reported to have both neurotoxic and neuroprotective properties (see references 51, 54, and 55). Abbreviations for enzymes involved: TH: tryptophan hydroxylase, L-AAAD: L-aromatic amino acid decarboxylase, MAO: monoamine oxidase, AD: aldehyde dehydrogenase, IDO:

indoleamine-2,3-dioxygenase, KATs: kynurenine aminotransferases, KMO: kynurenine 3 monooxygenase; KYNU: kynureninase.

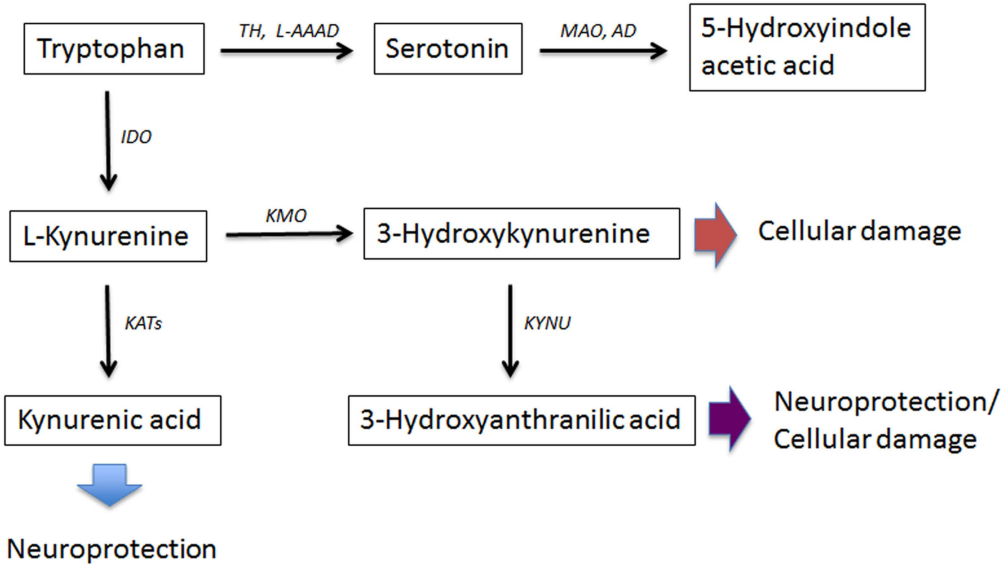
Supplemental Figure 1



Supplemental Figure 2



Supplemental Figure 3



SUPPLEMENTAL TABLE 1. Antibodies used in these studies

Target	Clone	Vendor
CD4-V450	RM4-5	BD Pharmingen
TCRβ-PE	H57-597	eBiosciences
TCRβ-APC	H57-597	eBiosciences
CD8-PE-Cy7	53-6.7	BD Pharmingen
FoxP3-FITC	FJL-16S	eBiosciences
Thy1.1-PE	OX-7	BD Pharmingen
H-2Kb-PerCP eFluor 710	AF6-88.5	eBiosciences
H-2Kk-PE	AF6-88.5.5.3	eBiosciences
H2-Kd-FITC	SF1-1-1	BD Pharmingen
CD44-APC	IM7	BD Pharmingen
CD62L-FITC	MEL-14	BD Pharmingen
CD11b-e450	M1/70	eBioscience
CD45.2-APC	104	BD Pharmingen
IDO-PerCP eFluor710	mIDO-48	eBioscience
F4/80-PE	BM8	eBioscience
B220-APC	RA3-6B2	BD Pharmingen
NK1.1-PE	PK136	BD Pharmingen
Rat IgG2a, κ -PE	RTK2758	Biolegend
Rat IgG2a,κ-PerCP eFluor710	eB149/10H5	eBioscience

*PE= Phycoerythrin, FITC=Fluorescein isothiocyanate, APC=Allophycocyanin, AF=AlexaFluor, PerCP=Peridinin Chlorophyll Protein Complex, Cy=Cyanine

SUPPLEMENTAL TABLE 2. Sequences of Primers

mIL-6
forward, 5'- GTTCTCTGGGAAATCGTGGA -3'
reverse, 5'- TCCAGTTTGGTAGCATCCATC -3'

mIL-10
forward, 5'- ATGCTGCCTGCTCTTACTGACTG -3'
reverse, 5'-CCCAAGTAACCCTTAAAGTCCTGC -3'

mIDO
forward, 5'- GTACATCACCATGGCGTATG -3'
reverse, 5'-CGAGGAAGAAGCCCTTGTC -3'

mIFNg
forward, 5'- TCAAGTGGCATAGATGTGGAAGAA -3'
reverse, 5'-TGGCTCTGCAGGATTTTCATG -3'

mTNFa
forward, 5'- CTTCTGTCTACTGAACTTCGGG -3'
reverse, 5'-CAGGCTTGTCACTCGAATTTTG-3'

SUPPLEMENTAL TABLE 3. MRM transition and other parameters for the tryptophan metabolites and internal standards studied.

Analyte	Precursor ion (*m/z*)	Product ion (*m/z*)	Retention time (min)	Collision energy (eV)
Tryptophan (TRP)	309	105	5.4	13
Serotonin (5-HT)	385	264	7.7	20
5-hydroxyindole acetic acid (5-HIAA)	313	146	6.1	20
Kynurenine (KYN)	417	146	6.4	22
Kynurenic acid (KA)	293.9	105	6.3	20
3-hydroxykynurenine (3-HK)	433	294	6.6	10
Deuterated TRP	314	164	5.4	13
Caffeic acid (CA)	406	105	8.5	15