

## **DESCRIPTION OF ADDITIONAL SUPPLEMENTARY FILES**

Excel file including Supplementary Data 1-71, which contain processed ChIP-seq and RNA-seq from adult male and female DRN, as well as human demographic information and mouse ChIP-qPCR primers.

**Supplementary Data 1:** Adult DRN (male) RNA-seq data (Susceptible vs. Control All), FDR<0.1 (DESeq2) – Fig. 1B-C & Fig. S1A-B, E-F

**Supplementary Data 2:** Adult DRN (male) RNA-seq data (Susceptible vs. Control All), FDR<0.1, DisGeNET (FDR<0.05; Benjamini-Hochberg) – Fig. 1C

**Supplementary Data 3:** Adult DRN (male) RNA-seq data (Susceptible vs. Control All), FDR<0.1, Go BP (FDR<0.05; Benjamini-Hochberg) – Fig. 1C

**Supplementary Data 4:** Adult DRN (male) RNA-seq data (Susceptible vs. Control Down), FDR<0.1, DisGeNET (FDR<0.05; Benjamini-Hochberg) –Fig. S1A

**Supplementary Data 5:** Adult DRN (male) RNA-seq data (Susceptible vs. Control Up), FDR<0.1, DisGeNET (FDR<0.05; Benjamini-Hochberg) –Fig. S1B

**Supplementary Data 6:** Adult DRN (male) RNA-seq data (Susceptible vs. Control Down), FDR<0.1, GO BP (FDR<0.05; Benjamini-Hochberg) –Fig. S1A

**Supplementary Data 7:** Adult DRN (male) RNA-seq data (Susceptible vs. Control Up), FDR<0.1, GO BP (FDR<0.05; Benjamini-Hochberg) –Fig. S1B

**Supplementary Data 8:** Adult DRN (male) RNA-seq data (Susceptible vs. Resilient All), FDR<0.1 (DESeq2) – Fig. 1B

**Supplementary Data 9:** Adult DRN (male) RNA-seq data (Resilient vs. Control All), FDR<0.1 (DESeq2) – Fig. 1B

**Supplementary Data 10:** Adult DRN (female) RNA-seq data (Defeated vs. Control All), FDR<0.1 (DESeq2) – Fig. 1E-F & Fig. S1C-F

**Supplementary Data 11:** Adult DRN (female) RNA-seq data (Defeated vs. Control All), FDR<0.1, DisGeNET (FDR<0.05; Benjamini-Hochberg) – Fig. 1F

**Supplementary Data 12:** Adult DRN (female) RNA-seq data (Defeated vs. Control All), FDR<0.1, Go BP (FDR<0.05; Benjamini-Hochberg) – Fig. 1F

**Supplementary Data 13:** Adult DRN (female) RNA-seq data (Defeated vs. Control Down), FDR<0.1, DisGeNET (FDR<0.05; Benjamini-Hochberg) –Fig. S1C

**Supplementary Data 14:** Adult DRN (female) RNA-seq data (Defeated vs. Control Up), FDR<0.1, DisGeNET (FDR<0.05; Benjamini-Hochberg) –Fig. S1D

**Supplementary Data 15:** Adult DRN (female) RNA-seq data (Defeated vs. Control Down), FDR<0.1, GO BP (FDR<0.05; Benjamini-Hochberg) –Fig. S1C

**Supplementary Data 16:** Adult DRN (female) RNA-seq data (Defeated vs. Control Up), FDR<0.1, GO BP (FDR<0.05; Benjamini-Hochberg) –Fig. S1D

**Supplementary Data 17:** Adult DRN RNA-seq data (Male Susceptible vs. Control & Female Defeated vs. Control Overlap All), FDR<0.1, DisGeNET (FDR<0.05; Benjamini-Hochberg) –Fig. S1F

**Supplementary Data 18:** Adult DRN RNA-seq data (Male Susceptible vs. Control & Female Defeated vs. Control Overlap All), FDR<0.1, Go BP (FDR<0.05; Benjamini-Hochberg) –Fig. S1F

**Supplementary Data 19:** Adult DRN (male) H3K4me3Q5ser ChIP-seq peaks (Control), FDR<0.05 (MACS2), >5-fold enrichment over input – Figure 2D-I & Fig. S2A-B

**Supplementary Data 20:** Adult DRN (male) H3K4me3Q5ser ChIP-seq peaks (Susceptible), FDR<0.05 (MACS2), >5-fold enrichment over input – Figure 2D-I & Fig. S2A-B

**Supplementary Data 21:** Adult DRN (male) H3K4me3Q5ser ChIP-seq peaks (Resilient), FDR<0.05 (MACS2), >5-fold enrichment over input – Figure 2D-I & Fig. S2A-B

**Supplementary Data 22:** Adult DRN (female) H3K4me3Q5ser ChIP-seq peaks (Control), FDR<0.05 (MACS2), >5-fold enrichment over input – Figure 2D-G & Fig. S2A-B

**Supplementary Data 23:** Adult DRN (female) H3K4me3Q5ser ChIP-seq peaks (Defeated), FDR<0.05 (MACS2), >5-fold enrichment over input – Figure 2D-G & Fig. S2A-B

**Supplementary Data 24:** Adult DRN (male) H3K4me3Q5ser diffReps (Susceptible vs. Control All, FDR<0.05, log2FC  $\geq$  1.5 or  $\leq$  -1.5 – Fig. 2F-G & Fig. S2C, E, G

**Supplementary Data 25:** Adult DRN (male) H3K4me3Q5ser diffReps (Susceptible vs. Resilient All, FDR<0.05, log2FC  $\geq$  1.5 or  $\leq$  -1.5 – Fig. 2H-I & Fig. S2C, E, G

**Supplementary Data 26:** Adult DRN (male) H3K4me3Q5ser diffReps (Resilient vs. Control All, FDR<0.05, log2FC  $\geq$  1.5 or  $\leq$  -1.5 – Fig. 2

**Supplementary Data 27:** Adult DRN (female) H3K4me3Q5ser diffReps (Defeated vs. Control All, FDR<0.05, log2FC  $\geq$  1.5 or  $\leq$  -1.5 – Fig. 2F-G & Fig. S2D, F, G

**Supplementary Data 28:** Adult DRN ChIP-seq data (Male Susceptible vs. Control & Female Defeated vs. Control Overlap All), FDR<0.05, log2FC  $\geq$  1.5 or  $\leq$ -1.5, GWAS Catalog (FDR<0.05; Benjamini-Hochberg) – Fig. 2G

**Supplementary Data 29:** Adult DRN ChIP-seq data (Male Susceptible vs. Control & Female Defeated vs. Control Overlap All), FDR<0.05, log2FC  $\geq$  1.5 or  $\leq$ -1.5, DisGeNET (FDR<0.05; Benjamini-Hochberg) – Fig. 2G

**Supplementary Data 30:** Adult DRN ChIP-seq data (Male Susceptible vs. Control & Female Defeated vs. Control Overlap All), FDR<0.05, log2FC  $\geq$  1.5 or  $\leq$ -1.5, GO BP (FDR<0.05; Benjamini-Hochberg) – Fig. 2G

**Supplementary Data 31:** Adult DRN ChIP-seq data (Male Susceptible vs. Control & Male Resilient vs. Susceptible Overlap, Reversed in Resilient), FDR<0.05, log2FC  $\geq$  1.5 or  $\leq$ -1.5, GWAS Catalog (FDR<0.05; Benjamini-Hochberg) – Fig. 2I

**Supplementary Data 32:** Adult DRN ChIP-seq data (Male Susceptible vs. Control & Male Resilient vs. Susceptible Overlap, Reversed in Resilient), FDR<0.05, log2FC  $\geq$  1.5 or  $\leq$ -1.5, DisGeNET (FDR<0.05; Benjamini-Hochberg) – Fig. 2I

**Supplementary Data 33:** Adult DRN ChIP-seq data (Male Susceptible vs. Control & Male Resilient vs. Susceptible Overlap, Reversed in Resilient), FDR<0.05, log2FC  $\geq$  1.5 or  $\leq$ -1.5, GO BP (FDR<0.05; Benjamini-Hochberg) – Fig. 2I

**Supplementary Data 34:** Adult DRN ChIP-seq data (Male Susceptible vs. Control All; FDR<0.05, log2FC  $\geq$  1.5 or  $\leq$ -1.5) vs. Adult DRN RNA-seq data (Male Susceptible vs. Control All; FDR<0.1), DisGeNET (FDR<0.05; Benjamini-Hochberg) –Fig. S2G (Overlapping PCGs)

**Supplementary Data 35:** Adult DRN ChIP-seq data (Female Defeated vs. Control All; FDR<0.05, log2FC  $\geq$  1.5 or  $\leq$ -1.5) vs. Adult DRN RNA-seq data (Female Defeated vs. Control All; FDR<0.1), DisGeNET (FDR<0.05; Benjamini-Hochberg) –Fig. S2G (Overlapping PCGs)

**Supplementary Data 36:** Adult DRN (male) H3K4me3Q5ser ChIP-seq peaks (Control H<sub>2</sub>O), FDR<0.05 (MACS2), >5-fold enrichment over input – Figure 3E-G & Fig. S3A-B

**Supplementary Data 37:** Adult DRN (male) H3K4me3Q5ser ChIP-seq peaks (Susceptible H<sub>2</sub>O), FDR<0.05 (MACS2), >5-fold enrichment over input – Figure 3E-H & Fig. S3A-B, D-E

**Supplementary Data 38:** Adult DRN (male) H3K4me3Q5ser diffReps (Susceptible H<sub>2</sub>O vs. Control H<sub>2</sub>O All, FDR<0.05, log2FC  $\geq$  1.0 or  $\leq$ -1.0 – Fig. 3E-G & Fig. S3A-B

**Supplementary Data 39:** Adult DRN (male) H3K4me3Q5ser diffReps (Susceptible vs. Control All, FDR<0.05, log2FC  $\geq$  1.0 or  $\leq$ -1.0 – Fig. 3E-G & Fig. S3A-B

**Supplementary Data 40:** Adult DRN ChIP-seq data (Male Susceptible vs. Control Acute & Male Susceptible vs. Control Protracted Overlap All), FDR<0.05, log2FC  $\geq$  1.0 or  $\leq$  -1.0, GO BP (FDR<0.05; Benjamini-Hochberg) –Fig. S3B

**Supplementary Data 41:** Adult DRN ChIP-seq data (Male Susceptible vs. Control Acute & Male Susceptible vs. Control Protracted Overlap All), FDR<0.05, log2FC  $\geq$  1.0 or  $\leq$  -1.0, GWAS Catalog (FDR<0.05; Benjamini-Hochberg) –Fig. S3B

**Supplementary Data 42:** Adult DRN (male) RNA-seq data (Susceptible H2O vs. Control H2O All), –Fig. S3C

**Supplementary Data 43:** Adult DRN (male) RNA-seq data (Susceptible FLX vs. Control H2O All; DESeq2), –Fig. S3C

**Supplementary Data 44:** Adult DRN (male) H3K4me3Q5ser ChIP-seq peaks (Control FLX), FDR<0.05 (MACS2), >5-fold enrichment over input – Figure 3E-F

**Supplementary Data 45:** Adult DRN (male) H3K4me3Q5ser ChIP-seq peaks (Susceptible FLX), FDR<0.05 (MACS2), >5-fold enrichment over input – Figure 3E-H & Fig. S3D-G

**Supplementary Data 46:** Adult DRN (male) H3K4me3Q5ser diffReps (Susceptible FLX vs. Susceptible H2OAll, FDR<0.05, log2FC  $\geq$  1.0 or  $\leq$  -1.0 – Fig. 3E-H & Fig. S3D-G

**Supplementary Data 47:** Adult DRN (male) H3K4me3Q5ser diffReps (Control FLX vs. Control H2O All, FDR<0.05, log2FC  $\geq$  1.0 or  $\leq$  -1.0 – Fig. 3E-F

**Supplementary Data 48:** Adult (Male) DRN ChIP-seq data ( Susceptible FLX vs. Susceptible H2O All), FDR<0.05, log2FC  $\geq$  1.0 or  $\leq$  -1.0, GO BP (FDR<0.05; Benjamini-Hochberg) – Fig. 3H

**Supplementary Data 49:** Adult (Male) DRN ChIP-seq data (Susceptible FLX vs. Susceptible H2O All), FDR<0.05, log2FC  $\geq$  1.0 or  $\leq$  -1.0, GWAS Catalog (FDR<0.05; Benjamini-Hochberg) – Fig. 3H

**Supplementary Data 50:** Adult DRN (male) H3K4me3Q5ser diffReps (Susceptible vs. Resilient All, FDR<0.05, log2FC  $\geq$  1.0 or  $\leq$  -1.0 –Fig. S3D-E

**Supplementary Data 51:** Adult (Male) DRN ChIP-seq data (Susceptible FLX vs. Susceptible H2O & Resilient vs. Susceptible Overlap All), FDR<0.05, log2FC  $\geq$  1.0 or  $\leq$  -1.0, GO BP (FDR<0.05; Benjamini-Hochberg) –Fig. S3E

**Supplementary Data 52:** Adult (Male) DRN ChIP-seq data (Susceptible FLX vs. Susceptible H2O & Resilient vs. Susceptible Overlap All), FDR<0.05, log2FC  $\geq$  1.0 or  $\leq$  -1.0, GWAS Catalog (FDR<0.05; Benjamini-Hochberg) –Fig. S3E

**Supplementary Data 53:** Human DRN H3K4me3Q5ser ChIP-seq peaks (Matched Controls for MDD – ADs), FDR<0.05 (MACS2), >5-fold enrichment over input –Fig. S3F-G

**Supplementary Data 54:** Human DRN H3K4me3Q5ser ChIP-seq peaks (Matched Controls for MDD + ADs), FDR<0.05 (MACS2), >5-fold enrichment over input –Fig. S3F-G

**Supplementary Data 55:** Human DRN H3K4me3Q5ser ChIP-seq peaks (MDD – ADs), FDR<0.05 (MACS2), >5-fold enrichment over input –Fig. S3F-G

**Supplementary Data 56:** Human DRN H3K4me3Q5ser ChIP-seq peaks (MDD + ADs), FDR<0.05 (MACS2), >5-fold enrichment over input –Fig. S3F-G

**Supplementary Data 57:** Human DRN H3K4me3Q5ser diffReps (MDD – ADs vs. Matched Controls All, FDR<0.05, log<sub>2</sub>FC  $\geq$  1.0 or  $\leq$  -1.0 –Fig. S3F-G

**Supplementary Data 58:** Human DRN H3K4me3Q5ser diffReps (MDD + ADs vs. MDD – ADs, FDR<0.05, log<sub>2</sub>FC  $\geq$  1.0 or  $\leq$  -1.0 –Fig. S3F-G

**Supplementary Data 59:** Human DRN ChIP-seq data (MDD + ADs vs. MDD – ADs) vs. Mouse DRN (Male) ChIP-seq Data (Susceptible FLX vs. Susceptible H2O) Overlap All, FDR<0.05, log<sub>2</sub>FC  $\geq$  1.0 or  $\leq$  -1.0, GO BP (FDR<0.05; Benjamini-Hochberg) –Fig. S3G

**Supplementary Data 60:** Human DRN ChIP-seq data (MDD + ADs vs. MDD – ADs) vs. Mouse DRN (Male) ChIP-seq Data (Susceptible FLX vs. Susceptible H2O) Overlap All, FDR<0.05, log<sub>2</sub>FC  $\geq$  1.0 or  $\leq$  -1.0, GWAS Catalog (FDR<0.05; Benjamini-Hochberg) –Fig. S3G

**Supplementary Data 61:** Adult Viral DRN RNA-seq data (Male Empty CSDS vs. Empty Control All; FDR<0.1; DESeq2) – Fig. 4E-F & Fig. S5A-F

**Supplementary Data 62:** Adult Viral DRN RNA-seq data (Male H3.3 WT CSDS vs. H3.3 WT Control All; FDR<0.1; DESeq2) – Fig. 4E

**Supplementary Data 63:** Adult Viral DRN RNA-seq data (Male H3.3Q5A CSDS vs. Empty CSDS Control All; FDR<0.1; DESeq2) – Fig. 4E & Fig. S6B-F

**Supplementary Data 64:** Adult Viral DRN RNA-seq data (Male H3.3Q5A CSDS vs. H3.3 WT CSDS Control All; FDR<0.1; DESeq2) – Fig. 4E

**Supplementary Data 65:** Adult Viral DRN RNA-seq data (Male Empty CSDS vs. Empty Control & H3.3Q5A CSDS vs. Empty CSDS Control Reversed; FDR<0.1), GWAS Catalog (FDR<0.05; Benjamini-Hochberg) – Fig. 4F

**Supplementary Data 66:** Adult Viral DRN RNA-seq data (Male Empty CSDS vs. Empty Control & H3.3Q5A CSDS vs. Empty CSDS Control Reversed; FDR<0.1), DisGeNET (FDR<0.05; Benjamini-Hochberg) – Fig. 4F

**Supplementary Data 67:** Adult Viral DRN RNA-seq data (Male Empty CSDS vs. Empty Control & H3.3Q5A CSDS vs. Empty CSDS Control Reversed; FDR<0.1), GO BP (FDR<0.05; Benjamini-Hochberg) – Fig. 4F

**Supplementary Data 68:** Adult Viral DRN RNA-seq data (Male H3.3Q5A CSDS vs. Empty CSDS) and Adult DRN (Susceptible FLX vs. Susceptible H2O) Overlap All, FDR<0.1, GO BP (FDR<0.05; Benjamini-Hochberg) –Fig. S6F

**Supplementary Data 69:** Adult Viral DRN RNA-seq data (Male H3.3Q5A CSDS vs. Empty CSDS) and Adult DRN (Susceptible FLX vs. Susceptible H2O) Overlap All, FDR<0.1, GWAS Catalog (FDR<0.05; Benjamini-Hochberg) –Fig. S6F

**Supplementary Data 70:** Human postmortem DRN demographic information - Fig. 2C & Fig. S3F-G

**Supplementary Data 71:** Mouse qChIP Primers - Fig. S4