## **Description of Additional Supplementary Files**

**Supplementary Data 1:** ChIP-Sequencing depth for each sample and each histone mark.

**Supplementary Data 2:** Genomic sites where significant differences in the number of reads were detected between C and ELA groups, using diffReps, for each histone mark.

**Supplementary Data 3:** Gene Ontology processes enriched in ChIP-Seq differential sites (DS) identified using GREAT annotation.

**Supplementary Data 4:** List of genomic sites where a transition in chromatin states (ST) was identified between C and ELA groups, using chromHMM.

**Supplementary Data 5:** Gene ontology processes enriched in chromatin state transitions (ST), identified using GREAT annotation.

**Supplementary Data 6:** Gene ontology processes enriched in differentially methylated regions (DMR) in the CG and CAC contexts, identified using GREAT annotation.

**Supplementary Data 7:** Results of differential expression analysis of RNA-Seq data using DESeq2.

**Supplementary Data 8:** Gene Ontology enrichment analysis of RNA-Seq data using the ToppGene suite.

Supplementary Data 9: Enrichment analysis of RNA-Seq data using the GSEA algorithm.

**Supplementary Data 10:** Aggregation of GO terms into main biological pathways affected at transcriptional, DNA methylation, histone modification or chromatin state levels.

**Supplementary Data 11:** Gene Ontology enrichment analysis of gene lists identified by comparing lateral amygdala and anterior cingulate cortex RNA-Seq data, using RRHO2 (Supplementary Fig.16b-c).