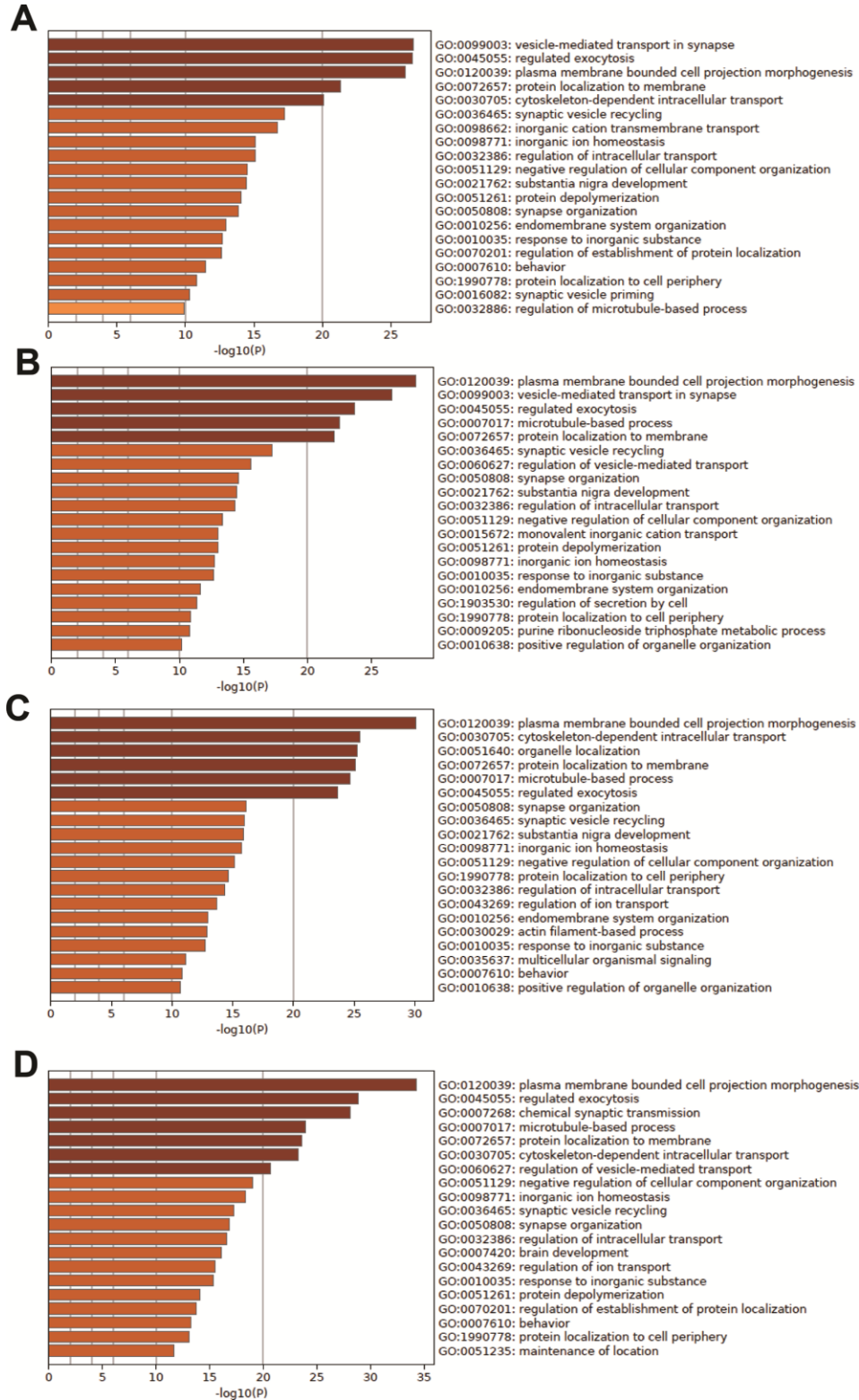
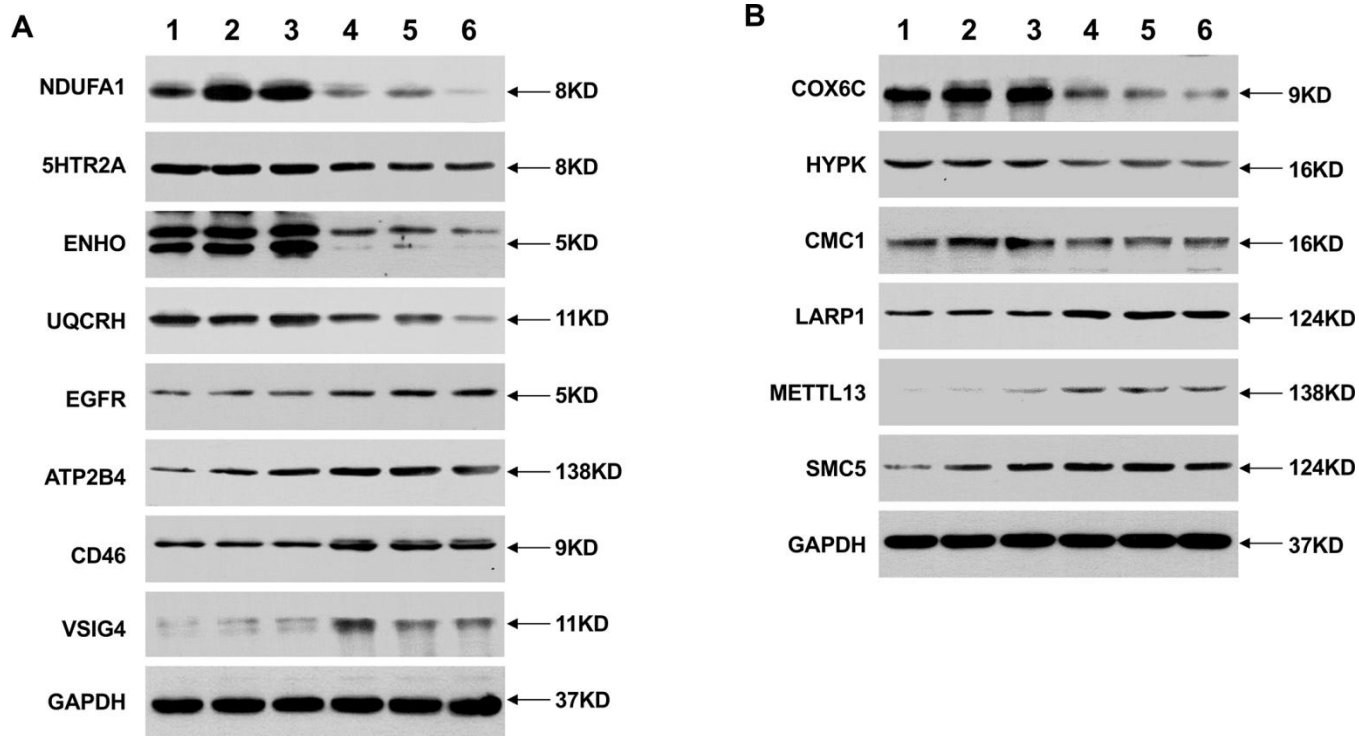


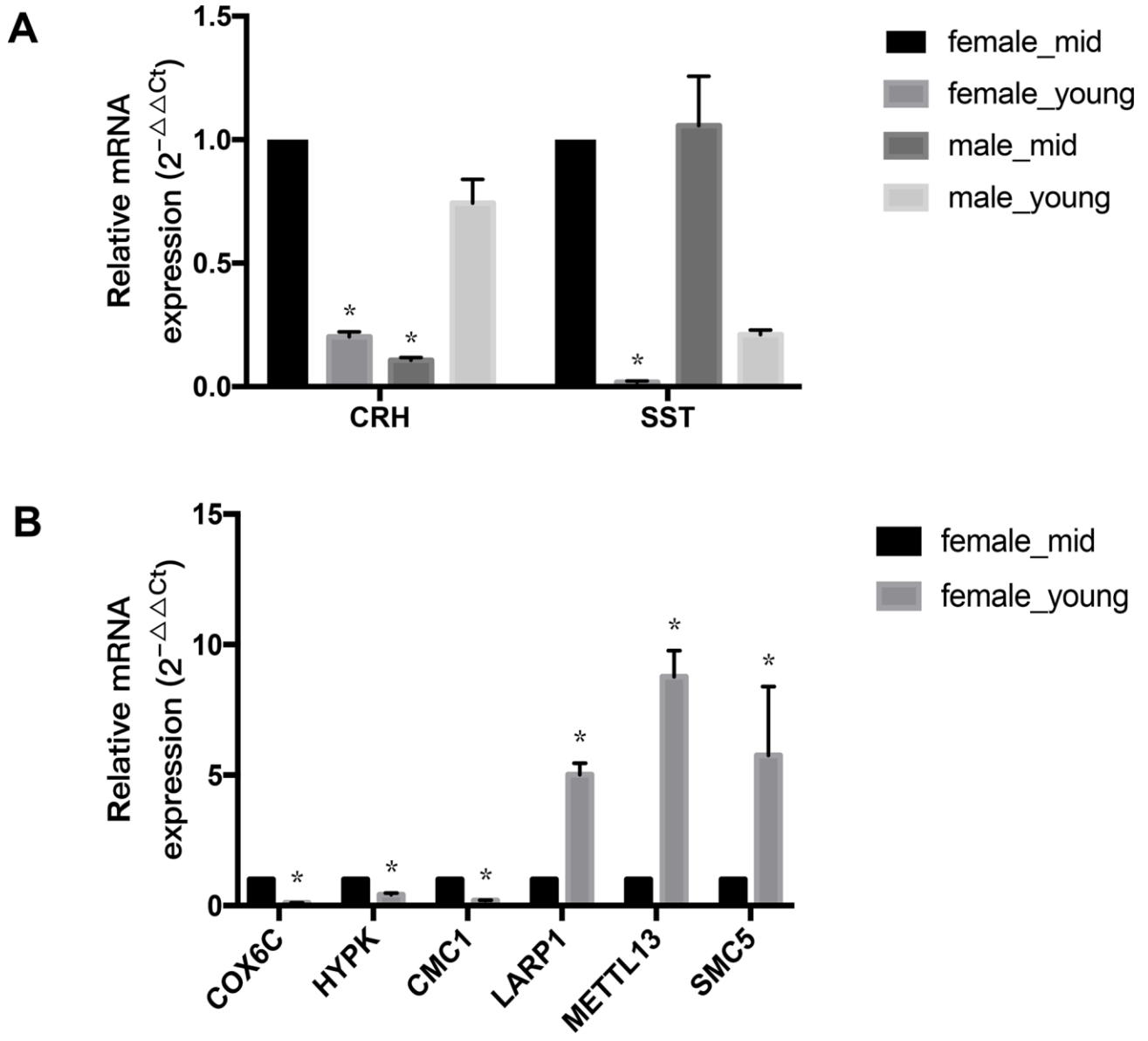
**SUPPLEMENTARY FIGURES**



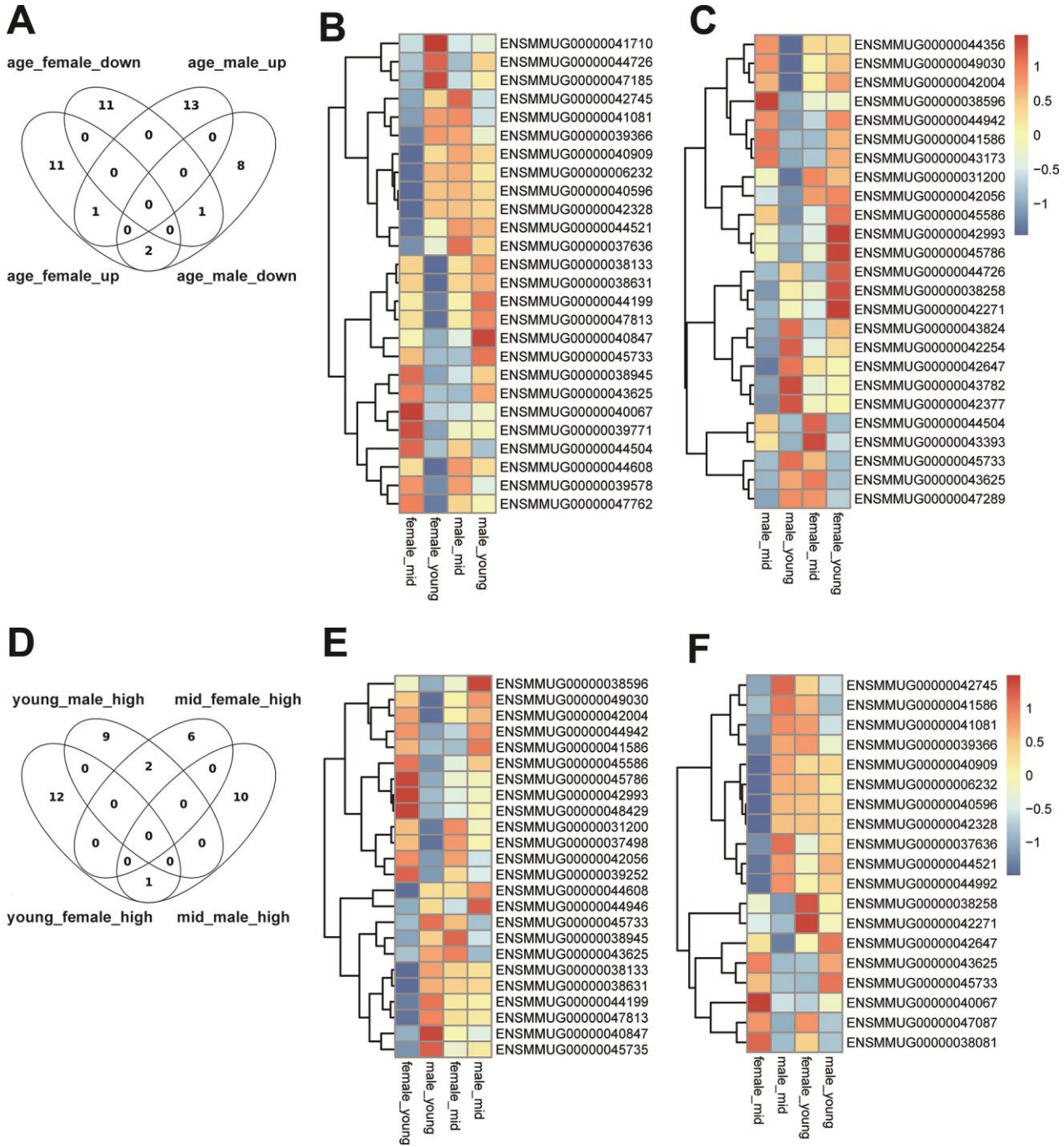
**Supplementary Figure 1. The GO biological process of the top 500 genes in the hypothalamus of rhesus macaque. (A)** The top 500 genes in the hypothalami of young-aged male macaques; **(B)** The top 500 genes in the hypothalami of middle-aged male macaques; **(C)** The top 500 genes in the hypothalami of young-aged female macaques; **(D)** The top 500 genes in the hypothalami of middle-aged female macaques.



**Supplementary Figure 2. Western blots of differentially expressed genes.** (A) Age-related differentially expressed genes in female macaques. (Sample 1-3: female\_mid; sample 4-6: female\_young). (B) Age-related differentially expressed housekeeping genes in female macaques. (Sample 1-3: female\_mid; sample 4-6: female\_young).



**Supplementary Figure 3. Relative mRNA expression of hormone genes and differentially expressed housekeeping genes.** (A) CRH, corticotropin releasing hormone; SST, somatostatin. \*, compared with female\_mid group, p value < 0.05. (B) \*, compared with female\_mid group, p value < 0.05.



**Supplementary Figure 4. The Venn diagrams and heatmaps of differentially expressed lincRNAs by age and gender. (A–D)** The number of differentially expressed lincRNAs in the hypothalami of rhesus macaques grouped by age and gender. **(B, C)** **(E, F)** Heatmaps show the differentially expressed lincRNAs in the hypothalami of rhesus macaques grouped by age and gender.