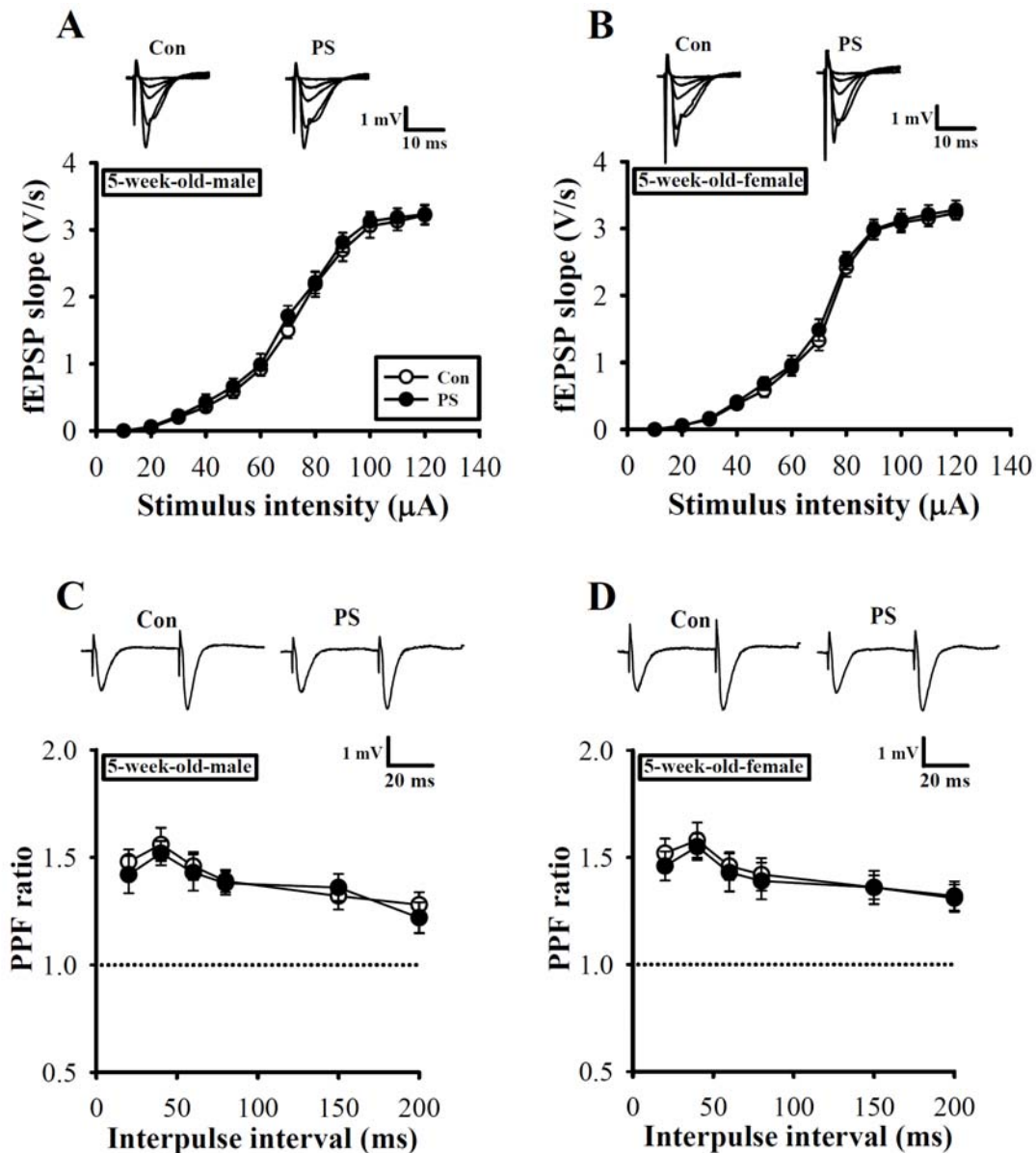


Supplementary information

Prenatal stress alters hippocampal synaptic plasticity in young rat offspring through preventing the proteolytic conversion of pro-BDNF to mature BDNF

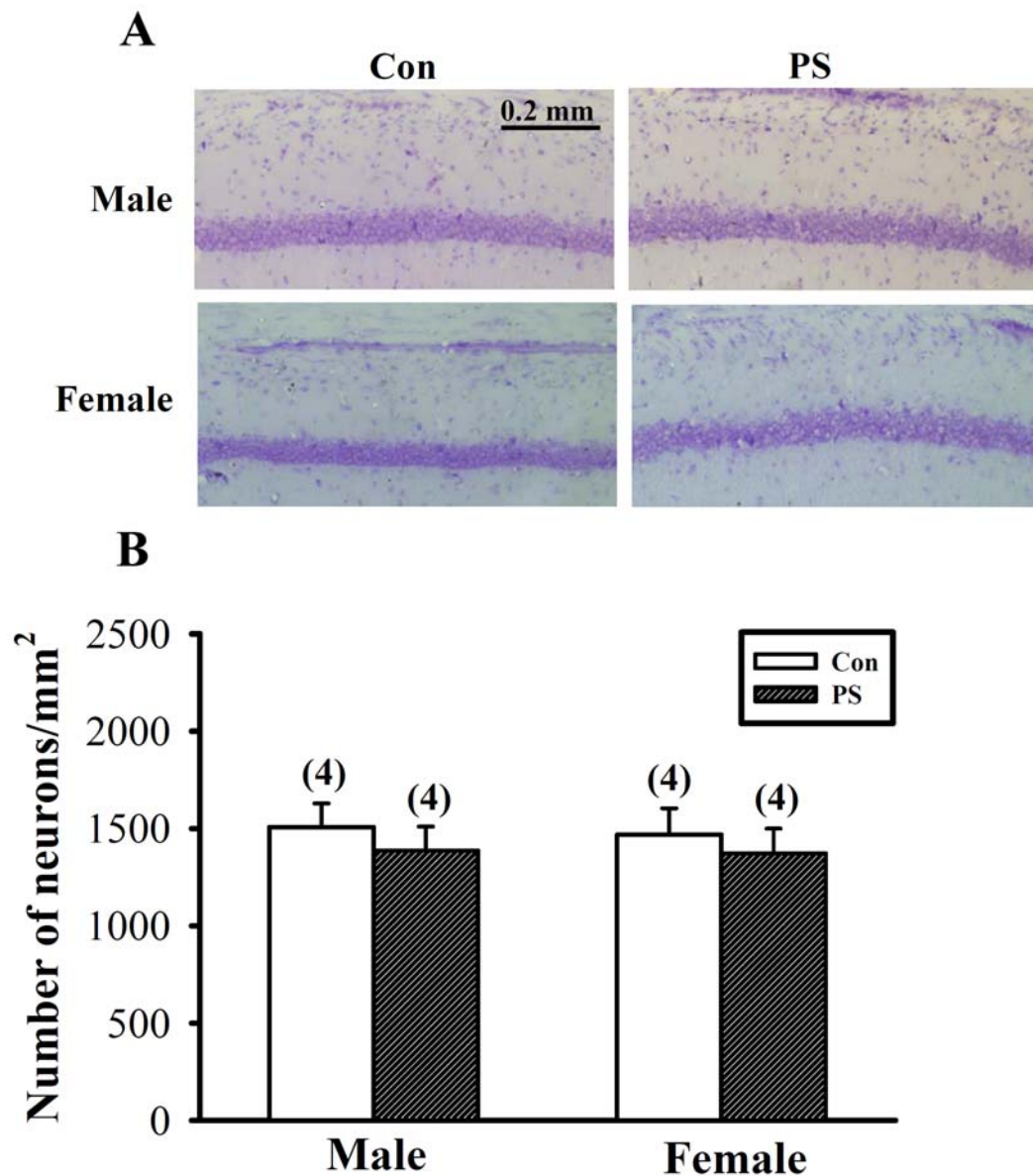
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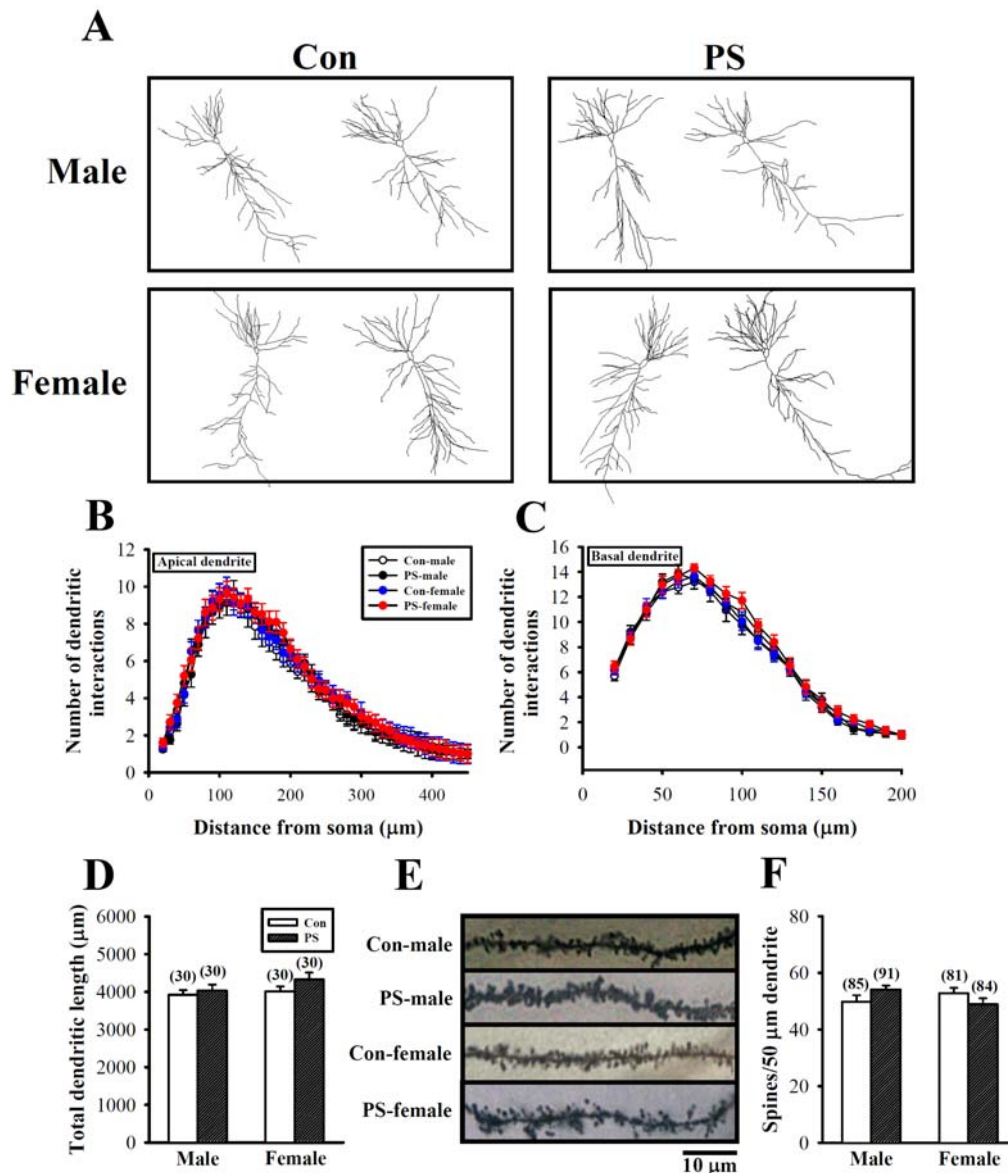
Supplementary Figure S1. Effect of PS on basal synaptic transmission and paired-pulse facilitation (PPF) in the CA1 region of the hippocampus at 5 weeks old

A and B, input-output curve of fEPSP slope (V/s) versus stimulus intensity (μA) at the Schaffer collateral-CA1 synapses of hippocampal slices from Con- and PS-treated male (A) and female (B) rats. Inset shows overlaid traces evoked in a slice from Con- and PS-treated rat. C and D, comparison of PPF ratio in slices from Con- and PS-treated male (C) and female (D) rats. The plot summarizes facilitation of the second fEPSP slope relative to the first one as a function of the interpulse intervals of 20 to 200 ms. Inset shows example PPF obtained with interpulse interval of 40 ms in a slice from Con- and PS-treated rat. Dash lines show level of baseline. Data represent the mean \pm SEM ($n = 6$ for each group).



Supplementary Figure S2. Effect of PS on the number of pyramidal neurons in hippocampal CA1 region

A, representative photographs with Cresyl violet staining of CA1 region showing that the number of pyramidal neurons was not significantly affected by PS treatment compared with age-matched Con-treated rats of both sexes. B, group data showing the summary results from 4 rats of each group at 5 weeks old.



Supplementary Figure S3. Effect of PS on dendritic morphology and spine density of pyramidal neurons in hippocampal CA1 region

A, representative camera lucida tracings of hippocampal CA1 pyramidal neurons from Con- or PS-treated male and female rats at 5 weeks old. B and C, Sholl analysis of apical (B) basal (C) dendrites of CA1 pyramidal neurons from Con- and PS-treated male and female rats (24 cells in each group). D, summary bar graphs depicting total dendritic length of CA1 pyramidal neurons from Con- and PS-treated rats. E, representative images of the primary branch of hippocampal CA1 pyramidal neurons from Con- and PS-treated male and female rats. F, summary bar graphs depicting the spine density in apical dendrites of CA1 pyramidal cells from Con- and PS-treated rats. Data represent the mean \pm SEM. The total number of neurons examined is indicated by *n* in parenthesis.