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[\[PDF \(790K\)\]](#) [\[References\]](#)**Effects of estrogens on proliferation and differentiation of neural stem/progenitor cells**Makiko OKADA<sup>1)</sup>, Koichi MURASE<sup>1)</sup>, Akihisa MAKINO<sup>1)</sup>, Mitsunari NAKAJIMA<sup>2)</sup>,  
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**ABSTRACT**

We investigated the effect of the female hormone 17 $\beta$ -estradiol (E2) and the hormone mimic bisphenol A (BPA) on the proliferation and differentiation of rat neural stem/progenitor cells (NS/PCs) cultured from the telencephalon of embryonic day-15 rats. Basic fibroblast growth factor (FGF-2) is a potent mitogen of early generated NS/PCs, and is used for the proliferation of NS/PCs *in vitro*. Administration of E2 or BPA alone to the NS/PCs stimulated their proliferation in the absence but not in the presence of FGF-2. E2- or BPA-treatment increased the ratio of the oligodendrocytes generated from the NS/PCs to total cells; however, this ratio did not change when the cells were stimulated with platelet-derived growth factor (PDGF), a mitogen for oligodendrocyte precursors, or with neurotrophin-3, an oligogenic factor for glial progenitor cells. These results suggest that estrogens would influence the fate of NS/PCs when the cells are poorly supplied with mitogens or differentiation factors during the early stages of neurogenesis.

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