



Short communication

Combinatory effects of PBDEs and 17 β -estradiol on MCF-7 cell proliferation and apoptosis

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Abstract:

In the present work, we analyzed whether polybrominated diphenyl ethers (PBDEs) (47, 99, 100 and 209) interfere with the effect of 17 β -estradiol on the proliferation and apoptosis of the MCF-7 cell line. MCF-7 cells were cultured in DMEM without phenol red supplemented with 5% charcoal-treated fetal bovine serum for 3 days with 10 nM 17 β -estradiol; with 0.1 μ M, 0.5 μ M or 1 μ M of the tested PBDE congeners; or with both 17 β -estradiol and a congener. Cell proliferation was determined by measuring BrdU incorporation, and cell apoptosis was measured by caspase-9 activity.

No PBDE congener had an effect on basal cell proliferation, but they all significantly decreased basal caspase-9 activity. An additive anti-apoptotic activity and ability to induce cell proliferation was observed in the presence of 17 β -estradiol.

Key words:

PBDEs, 17 β -estradiol, MCF-7 cells, proliferation, apoptosis
