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# The Effects of 2,3,7,8-Tetrachlorodibenzo-*p*-Dioxin (TCDD) on Proliferation of MCF-7 and Hec-1B Cell Lines

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Endocrine disrupters (EDs) are exogenous chemicals that interfere with the production, releasing, metabolism, excretion, binding of natural hormones, and whole endocrine systems. EDs are very dangerous since they are extremely stable, not easily degraded, and accumulated in fat and tissue. 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD) is known as the most toxic EDs. Therefore, this study was conducted to investigate the effects of TCDD on proliferation of human breast cancer (MCF-7) and endometrial adenocarcinoma (Hec-1B) cells. 10, 100, and 1000 nM of TCDD were treated with steroid free condition. Viable cell counting, MTT, and BrdU assay was performed to investigate cell proliferation. Apoptosis was investigated using DNA laddering. Although, DNA fragmentation as the evidence of apoptosis was not detected, all of these cell lines showed restricted proliferation at 48 hrs after 100 and 1000 nM TCDD treatments. Recently, it has been reported that the expression of transforming growth factor βs (TGF-βs) are increased in TCDD treatment and also involved in regulation of cell cycle. Therefore, these results were considered that the decreased cell proliferation by TCDD is related to the expression of TGF-βs.

Key words) ***TCDD, Cell proliferation, TGF-βs, MCF-7, Hec-1B***