PE11) ROS-Mediated Apoptotic Cell Death Pathway Induced by Di(2-ethylhexyl) Phthalate (DEHP) Related to Fine Particulate Matter in Human Keratinocytes Cells

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1. 서론

Particulate matter with an aerodynamic diameter less than 2.5 μM ($PM_{2.5}$) is one of the major environmental pollutants. Di(2-ethylhexyl) phthalate (DEHP) is one of the most abundant and toxic components in the $PM_{2.5}$ asan endocrine disrupting chemicals, and has been used to utilize for manufacturing of Poly Vinyl Chloride (PVC) to increase the flexibility of final products. In the present study, we were investigated that the effects of DEHP on the death of human keratinocytes (HaCaT) cell lines. DEHP stimulated apoptosis by activating the phosphorylation of extracellular signal-regulated kinase (ERK) through the production of intracellular Reactive Oxygen Species (ROS). Interestingly, we found that DEHP induced the phosphorylation of nuclear factor-kappa B (NF-κB) responsible for the expression of cleaved caspase-3 as an executional cell death protease in HaCaT cells. On the basis of these results, we suggest that DEHP in the $PM_{2.5}$ induces apoptotic death of human keratinocytes via ROS-mediated signaling events.

2. 참고문헌

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