

[P-12]**Antioxidant Activity of Vegetables and Fruits Extract in Mice**

Chan Heo, Nam Yee Kim, Hyun Pyo Kim and Moon Young Heo
College of Pharmacy, Kangwon National University, Chunchon 200-701, Korea

The ethanol extracts of the mixed vegetables(Bioactive Vegetables, BV) and the mixed fruits(Bioactive Fruits, BF) were evaluated for their in vivo antioxidant activities. Four weeks treatment of oral administration was performed to mice. A KBrO₃ as a potent oxidant was used to induce the oxidative stress for in vivo experiment. BV and BF were shown to possess the significant inhibitory effect of lipid peroxidation as measured by the level of malondialdehyde (MDA) formation although the potencies were not higher than those of well-known antioxidants such as vitamin C, trolox and quercetin. Furthermore, BV and BF inhibited DNA damage assessed by single cell gel electrophoresis(comet assay) and reduced the micronucleated reticulocyte (MNRET) formation of peripheral blood. Antioxidants tested also revealed potent inhibitory activities higher than BV and BF. These antigenotoxic activity profiles were similar to that of abovementioned inhibition of lipid peroxidation. Therefore, BV and BF having mild antioxidant activity as functional food candidates may be useful natural antioxidants by the inhibiting of lipid peroxidation and the protecting oxidative DNA and chromosomal damage.

Keyword: vegetable, fruit, antioxidant effect, DNA damage, chromosomal damage, comet assay, micronucleus assay, in vivo