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The Effect of the Crude Extracts from *Alnus* sp.  
on Antiradical and Antioxidation

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In the course of research on the bioactive constituents of woody plants from the Goseong area of Korea, a methanol extract of the *Alnus*. sp were found to show strong antiradical and antioxidant activity. The crude extracts of the *Alnus*. sp were assessed using different antioxidant tests: DPPH activity,  $\beta$ -carotene linoleate model system, ferric thiocyanate (FTC) effect, reducing power and metal chelating activities *in vitro*. As a result, we found that the ethyl acetate- soluble fractions from the methanol extract had a potent antioxidant activity. In addition, a fraction was purified by silica gel column chromatography and preparative HPLC.

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Isolation and application of insoluble phosphate solubilizing strains

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Strain L-1 and BR-1 that solubilized insoluble phosphate were isolated from soil. The maximum growth conditions were investigated about carbon and nitrogen sources. Strain L-1 showed the excellent growth in the culture broth with glucose and peptone addition. Strain BR-1 revealed the excellent growth under the addition of glucose and yeast extract. In the result of garden plant experiment using two strains, the cabbage field showed the high phosphate solubilizing activity when strain L-1 and BR-1 culture broth sprayed.