

# Antioxidant Activity of Pine Bark Constituents

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A modified *in vitro* lipid peroxidation inhibition assay was used to guide the fractionation and the isolation of antioxidative principles of Finnish pine bark extract. This approach yielded 3,4-dihydroxybenzoic acid (protocatechuic acid) and taxifolin-3-O- $\beta$ -glucopyranoside as major antioxidative compounds from the plant material. The structural elucidation of these compounds was undertaken with the help of HPLC-DAD and HPLC-ESI-MS analyses. Their IC<sub>50</sub> values, in comparison to trolox (6-hydroxy-2,5,7,8-tetramethylchroman-2-carboxylic acid), were: trolox ( $1.78 \pm 0.56 \mu\text{M}$ ) < protocatechuic acid ( $5.77 \pm 1.63 \mu\text{M}$ ) < taxifolin-3-O- $\beta$ -glucopyranoside ( $16.30 \pm 1.98 \mu\text{M}$ ). The method for the determination of antioxidant activity proved reproducible and quick for routine analyses with 96 well plates.

*Key words:* *Pinus sylvestris* L., Protocatechuic Acid, Taxifolin-3-O- $\beta$ -glucopyranoside