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A New Phenolic Compound Isolated from Laurus nobilis from Lebanon and Comparison of Antioxidant Activity of Different Parts

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Abstract : Laurus nobilis is an aromatic plant widely distributed in the Mediterranean region. The leaves of this plant are frequently used as a spice and as a traditional medicine for several diseases. In our present study, the methanolic extract of L. nobilis leaves showed antioxidant activity. Chromatographic separations of the EtOAc fraction which had the highest antioxidant activity led to the isolation of 12 compounds. Among them, there was a new phenylpropanoid derivative, which was identified by 1D and 2D NMR experiments, as well as high resolution mass spectrometry. In addition, two major compounds, catechin and epicatechin, which showed strong antioxidant activity may be responsible for the antioxidant activity of L. nobilis leaves. Since different plant parts may contain different types of constituents which contribute to the biological activities, we investigated the antioxidant activity of different parts of L. nobilis such as leaves, stems and fruits. Stems of L. nobilis showed the most potent antioxidant activity, followed by leaves. Further quantitation of total phenol and flavonoids contents revealed a positive correlation between the content of these compounds and antioxidant activity. Taken together, phenolic compounds including flavonoids are responsible for antioxidant activity of L. nobilis. In addition, stem parts of L. nobilis are suggested as good sources for antioxidant activity. Conclusively, L. nobilis might be effective in several free radical mediated diseases.

Keywords : antioxidant activity, different parts, Laurus nobilis, phenolic compound
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