Antioxidant Properties of *Erigeron annuus* extract and its Three Phenolic Constituents

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Abstract

Reactive oxygen species (e.g., hydroxyl radical or hydrogen peroxide) and reactive nitrogen species(e.g., peroxynitrite) has been implicated in the development of chronic degeneration disease and in the aging process and the concept that increased antioxidant defence may lower risk of such disease is supported by biochemical and epidemiological evidence. The antioxidant activity of the extract of *Erigeron annuus* was assessed by means of two different *in vitro* tests : bleaching of the stable 1,1-diphenyl-2-picrylhydrazyl radical (DPPH test) and scavenging authentic peroxynitrite in company with peroxynitrite generation from 3-morpholinosydnomimine (SIN-1). In both tests used, 85% aq. MeOH and *n*-BuOH soluble fraction of the crude extracts showed a significant peroxynitrite and DPPH radical scavenging effect in comparison to L-ascorbic acid. Bioassay-guided fractionation of *n*-BuOH soluble fraction led to the isolation of three compounds : apigenin (**1**), Quercetin-3-O-glucoside (**2**), caffeic acid (**3**). The structure of isolated compounds were elucidated on the basis of its spectroscopic data and suggested their powerful antioxidant activity by determining capacity to scavenging peroxynitriteand DPPH radical.

Reference

1. Patel, R. P., J. McAndrew, H. Sellak, C. Roger White, H. Jo, B. A. Freeman and V.M. Darley-Usmar (1999) Biological aspects of reactive nitrogen species. *Biochimica et Biophysica Acta.* 1411: 385-400.