

Cytoprotection by *Achyrocline satureioides* (Lam) D.C. and  
some of its main flavonoids against oxidative stress  
M.F. Arredondo<sup>1</sup>, F. Blasina<sup>1</sup>, C. Echeverry, A. Morquio, M. Ferreira, J.A. Abin-  
Carriquiry, L. Lafon, F. Dajas\*

*Department of Neurochemistry, Instituto de Investigaciones Biológicas, Clemente  
Estable, Avda. Italia 3318, CP 11600 Montevideo, Uruguay*

Accepted 13 November 2003

### **Abstract**

Epidemiological studies indicate that dietary antioxidants can influence the incidence of neurodegenerative diseases. Among them flavonoids have been proposed to be effective cytoprotectors. Consequently, herbs with a high concentration of these compounds such as *Achyrocline satureioides*, *Ginkgo biloba* and *Epilobium parviflorum* are of special interest. In this context a comparative study of the cytoprotective capacity of infusions from the three plants against an oxidative insult was performed. Hence, the cytoprotective activity of each infusion against H<sub>2</sub>O<sub>2</sub> injury to PC12 cells was tested and the antioxidant capacity was assessed by the ABTS•<sup>+</sup> radical bleaching assay. Free and glycosylated flavonoids contained in the infusions were identified by HPLC and the cytoprotective effect of some of these individual flavonoids was tested.

The analysis of the flavonoid content of the infusions revealed different profiles.

*Epilobium parviflorum* infusion showed the highest antioxidant capacity but only *Achyrocline satureioides* infusion proved to be cytoprotective. Moreover, the free flavonoids quercetin and luteolin contained in this infusion were also cytoprotective. In conclusion, the free radical scavenger capacity did not correlate with the cytoprotective profile of the infusions. The special mixture of unglycosylated *Achyrocline satureioides* flavonoids could be a clue to explain the unique effect of this plant.

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**Keywords:** *Achyrocline satureioides*; Marcela; Flavonoids; Cytoprotection; PC12 cells; H<sub>2</sub>O<sub>2</sub>