Screening for acetylcholinesterase inhibitory activity in plant extracts from Argentina

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Resumen

Plants are a potential source of bioactive compounds and offer a promising strategy for the treatment of neurological disorders such as Alzheimer's disease. The inhibitory effect of 73 native and naturalized plants collected from the central region of Argentina on acetylcholinesterase (AChE) was tested using microplate and TLC assays after solvent fractionation of complete ethanol extracts obtained from the plants. Organic fractions obtained from extracts of Achyrocline tomentosa (Asteraceae), Eupatorium viscidum (Asteraceae), Ruprechtia apetala (Polygonaceae) Trichocline reptans (Asteraceae) and Zanthoxylum coco (Rutaceae) presented strong inhibition of AChE (higher than 80%) at 1 mg/mL, with R. apetala and T. reptans being the most potent, showing complete inhibition of the enzyme. Their IC50 values were 0.0779 and 0.1118 mg/mL, respectively. Aqueous fractions did not show any inhibitory activity on the enzyme. These results suggest that the most effective extracts deserve further investigation with the aim of obtaining new molecules for the treatment of neurodegenerative disorders.

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