

***In vitro* Anticholinesterase Activity of Various Alkaloids**

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Z. Naturforsch. **62c**, 684–688 (2007); received March 15/May 2, 2007

In the current study, a number of alkaloids including retamine, cytisine, and sparteine (quinolizidine-type), yohimbine and vincamine (indole-type), scopolamine and atropine (tropane-type), colchicine (tropolone-type), allantoin (imidazolidine-type), trigonelline (pyridine-type) as well as octopamine, synephrine, and capsaicin (exocyclic amine-type) were tested *in vitro* for their inhibitory activity against acetylcholinesterase (AChE) and butyrylcholinesterase (BChE) at 1 mg/ml concentration by the Ellman method using an ELISA microplate reader. Among the alkaloids tested, only capsaicin exerted a remarkable inhibitory effect towards both AChE and BChE [(62.7 ± 0.79)% and (75.3 ± 0.98)%, respectively]. While the rest of the alkaloids did not show any significant inhibition against AChE, three of the alkaloids, namely retamine, sparteine, and yohimbine, exerted a noteworthy anti-BChE effect as compared to galanthamine, the reference drug.

Key words: Alkaloid, Acetylcholinesterase, Butyrylcholinesterase