

New Method for the Determination of the Half Inhibition Concentration (IC_{50}) of Cholinesterase Inhibitors

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A new and simple analytical method is described for the determination of the IC_{50} values of the inhibitors of the hydrolysis of acetylcholine (ACh) or acetylthiocholine (ATCh) by cholinesterases. The method is based on monitoring the time course of the pH value during the uninhibited and inhibited reaction. It requires only a pH meter with a suitable pH measuring cell and a small thermostated stirred batch reactor. The method has been validated for twelve different types of cholinesterase inhibitors. The determined IC_{50} values are comparable to those obtained by independent, more complicated, and expensive methods (Ellman's and pH-stat).

Key words: Cholinesterase Inhibition, IC_{50} , Determination