Kinetics of Total Enzymatic Hydrolysis of Acetylcholine and Acetylthiocholine

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Kinetics and the mechanism of total *in vitro* hydrolyses (*i.e.* up to the exhaustion of substrate) of acetylcholine and acetylthiocholine by acetylcholinesterase and butyrylcholinesterase were studied *in vitro* in a batch reactor at 25 °C, pH 8 and ionic strength of 0.11 M. Every hydrolysis was monitored by 2–3 independent analytical methods. All studied types of enzymatic hydrolyses fulfilled the Michaelis–Menten reaction scheme with the irreversible second step. A table of obtained average values of rate constants and estimations of initial molar enzyme concentrations, and discussion of the results are presented.

Key words: Acetylcholine, Hydrolysis, Kinetics