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**Characterization of three forms of AChE from
the brain in Japanese quail**

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Enzyme activities and kinetics of three forms of AChE in Japanese quail brain were examined. Aqueous-soluble AChE (AS-AChE) form was the most abundant as compared to detergent-soluble AChE (DS-AChE) and salt-soluble AChE (SS-AChE) forms. K_m values of acetylthiocholine for AS-AChE, DS-AChE and SS-AChE were 53.8 μ M, 26.1 μ M and 15.1 μ M, respectively. The substrate inhibition was the most pronounced with AS-AChE in the presence of excessive amount of acetylthiocholine. K_i values of 3-acetylpyridine for AS-AChE, DS-AChE and SS-AChE were 27.4 mM, 17.7 mM and 141.2 mM, respectively. 3-Acetylpyridine exerted mixed-type inhibition on three forms of AChE.

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**Effects of trimethoprim on levels of soluble proteins
and nucleic acids in various tissues of quail**

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Effects of trimethoprim on levels of soluble proteins and nucleic acids in various tissues of quail were investigated. The concentrations of soluble proteins in liver and pectoral muscle of quail administered trimethoprim were significantly reduced whereas those in brain and kidney were not affected. The activity of acetylcholinesterase in the brain of trimethoprim-treated quail was remarkably enhanced but those in liver and pectoral muscle were not affected. The concentrations of RNA in brain, liver and pectoral muscle were not affected and only the liver showed the significant reduction in concentration of DNA.