

Characterization of Acetylcholinesterase From Human Heart Auricles: Evidence for the Presence of a G-Form Sensitive to Phosphatidylinositol-Specific Phospholipase

R. González, E. O. Campos, S. Morán and N. C. I. Inestrosa

Abstract

1. Acetylcholinesterase (ACHE) is an important enzyme of the cholinergic system in mammals.
2. We report here the subcellular association of the AChE molecular forms in the normal human heart auricle.
3. Both globular (G) and asymmetric (A) forms were identified using velocity sedimentation and sequential extraction procedures.
4. G forms corresponds to 84% and A forms account for 16% of the total AChE activity.
5. Of G forms 64% of AChE activity correspond to the G~ monomer and of the A forms the class I-A account for 80% of AChE activity.
6. In addition, treatment of the cardiac membranes with the enzyme phosphatidylinositol-specific phospholipase c (PIPLC) results in the solubilization of AChE activity.
7. This means that a G2 AChE dimer with a glycolipid anchoring domain is present in the human heart.