

Neurotransmitter-related enzyme acetylcholinesterase in juveniles of *Concholepas concholepas* (Mollusca; gastropoda; muricidae)

M. González, A. Perelman, M. E. Fuentes, J. C. Castilla, R. Labarca, E. Brandan, R. González-Plaza, Nibaldo C. Inestrosa

Abstract

With the aim of understanding the organization of the nervous system in the Prosobranchia gastropod *Concholepas concholepas*, we studied the properties, specificity, sedimentation coefficient, and solubility of the cholinergic enzyme, acetylcholinesterase (AChE). It was found that 95% of the esterase was inhibited by BW284c51 dibromide but not by iso-OMPA, which is consistent with the specificity of AChE. The calculated K_m 0.22 mM is eight to ten times higher than are the K_m s for AChE of other invertebrates and similar to the values reported for fishes and vertebrates.

The AChE shows a maximal activity around 22°C, has a glycoproteic character, and presents sedimentation coefficients of 6.5 S and 10.5 S. Most of this AChE activity is soluble under low ionic strength conditions; however, the enzyme aggregates in the absence of detergents.

In conclusion, our evidence indicates the presence of a well-recognized molecular marker that could be useful for the study of the development of *Concholepas concholepas*.