

NEUROCHEMICAL CHARACTERIZATION OF THE ACYLPOLYAMINETOXIN NSTX-3 IN RODENTS BRAIN

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Arthropods toxins present interesting chemical structures and mechanisms of actions. Since the compounds produced by these venomous animals are highly selective and present high affinity by neuronal receptors of mammals, they are considered model-compounds for the development of novel neuropharmaceutical drugs. The acylpolyaminetoxins act on glutamate receptors blocking neurotransmission, not only in invertebrates but also in vertebrates. The acylpolyaminetoxin, NSTX-3, was intracerebroventricularly (*icv*) applied in the lateral ventricle of Wistar rat brains and the biological action through the central nervous system (CNS) was then monitored by using of the analysis of the expression of *fos* protein by using anti-*fos* antibodies. The NSTX-3 was synthesized manually on-solid phase, purified and used in the assays. The mapping of the action of this compound in the brain of adult male rats Wistar revealed the expression of *fos* after *icv* injections of 1,0µg/µL NSTX-3. This compound induced the expression of *fos* protein in some areas of the CNS, such as: hypothalamus, thalamus, septum and cerebral cortex. These results will allow new studies about the interaction of the NSTX-3 with some specific areas of the CNS of rats, especially related to the attention and arousal behaviors

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