



alomone labs

Molecular Tools for the Neuroscience Community

DATA SHEETS

Certificate of Analysis

Headquarters: Alomone Labs Ltd. Har Hotzvim Hi-Tech Park P.O. Box 4287, Jerusalem 91042, Israel.

Tel: +972-2-587 2202 Fax: +972-2-587 1101 or +972-2-642 6975 email: alomone@netvision.net.il <http://www.alomone.com>

PRODUCT #T-800

LOT#TC-04

CERTIFICATE OF ANALYSIS

TaiCatoxin

(Oxyuranus scutellatus scutellatus)

M.W.: 52,000 daltons.¹

Purity: > 97% by HPLC.

Solubility: Any aqueous buffer.

Preparation:

TaiCatoxin is isolated from *Oxyuranus s.scutellatus* snake venom, by modification of the procedure of Possani¹ and purified to homogeneity.

Reconstitution:

The protein concentration was determined by the method of Lowry.² Each vial contains 0.1 mg of unbuffered protein and is provided as a lyophilized powder.

Dissolving of 0.1 mg in 1.9 ml, gives a stock solution of 1 μ M.

Before dissolving the toxin, the tube should first be centrifuged, to concentrate the lyophilized toxin in the bottom of the tube. After centrifuging, the toxin must be dissolved into a stock solution using distilled water, or an appropriate buffer, to a concentration of 10^{-5} - 10^{-6} M. After preparing the stock solution, it should be divided into aliquots and can be stored in this way for up to three months at -20°C .

Storage and Stability:

Lyophilized form: 2-3 weeks at room temperature.

One year at -20°C .

Liquid form: Up to three days at 4°C .

3 months at -70°C .

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Known action:

Taicatoxin was originally shown to be a specific and reversible blocker of high voltage activated calcium channels in guinea pig and rat ventricular myocytes (probably Cav1.2).¹ The IC₅₀ is voltage dependent decreasing from 500 nM at holding potential = -80 mV to 10 nM at holding potential = -30 mV, indicating preference of block of the inactivated state of the channels.¹ However, another report³ shows that 50 nM Taicatoxin completely blocked SK_{Ca} apamin-sensitive channels, in chromaffin cells.

Bioassay:

Electrophysiological recordings were used to monitor Ca²⁺ currents¹ or action potential parameters⁴ from isolated myocytes and from chromaffin cells³. In addition, Taicatoxin was used to displace ¹²⁵I-Apamin binding in rat brain synaptosomes.³

References:

1. Possani, L.D. *et al.* (1992) *Toxicon* **30**, 1343.
2. Lowry, O.H. *et al.* (1951) *J.Biol.Chem.* **193**, 265.
3. Doorty, K.B. *et al.* (1997) *J.Biol.Chem.* **272**, 19925.
4. Athias, F.E. *et al.* (1996) *Mol. Cell Biochem.* **160**, 61.