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Product Information

α -Cobratoxin from *Naja naja atra*

Product Number **C 3862**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

Cas number: 12584-83-7

Sequence:
LECHNQQSSQ TPTTTGCSGG ETNCYKKRWR
DHRGYRTERG CGCPSVKNGI EINCCTDRC NN
Disulfide bonds: C³-C²⁴, C¹⁷-C⁴¹, C⁴³-C⁵⁴, C⁵⁵-C⁶⁰

Product Description

α -Cobratoxin is a short post-synaptic neurotoxin isolated from the venom of *Naja naja atra* (Chinese or Taiwan cobra). It is a 62 amino acid monomeric peptide with four disulfide bonds and a molecular weight of 6,949 Da. The calculated pI is 8.1

α -Cobratoxin acts as an antagonist at nicotinic acetylcholine receptors in neuromuscular junctions.¹ It has identical effects to (+)-tubocurarine, another potent nicotinic receptor antagonist in that, at a concentration of 5 nM, it produces the characteristic fade of the muscle compound action potential followed by tetanus to repetitive nerve stimulation.¹ α -Cobratoxin has been shown to bind to multiple sites on the α chains of human and electric ray (*Torpedo californica*) nicotinic receptors.^{2,3} α -Cobratoxin has an LD50 of 0.09 $\mu\text{g/g}$ s.c. in mice.

Precautions and Disclaimer

This product is for laboratory research use only. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

α -Cobratoxin is readily soluble in water. Activity is lost in the presence of reducing agents.

Storage/Stability

α -Cobratoxin is very stable and should be stored as supplied at $-20\text{ }^{\circ}\text{C}$.

References

1. Bradley, R.J., et al., Multiple effects of α -toxins on the nicotinic acetylcholine receptor. *FEBS Lett.*, **224**, 277-282 (1987).
2. Ruan, KH., et al., The short-neurotoxin-binding regions on the α -chain of human and *Torpedo californica* acetylcholine receptors. *Biochem. J.*, **274**, 849-854 (1991).
3. Zeng, H., and Hawrot, E., NMR-based binding screen and structural analysis of the complex formed between α -cobratoxin and the 18-mer cognate peptide derived from the α 1 subunit of the nicotinic acetylcholine receptor from *Torpedo californica*. *J. Biol. Chem.*, **277**, 37439-37445 (2002).

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