ALPHA-COBRATOXIN

Alpha-elapitoxin-Nk2a · Long neurotoxin 1

Product No.
MCI-SNK-012

CAS No.	UniProt Ref.	Origin
69344-74-7	P01391	Naja kaouthia

PRODUCT DESCRIPTION

Alpha-cobratoxin is a 71-amino-acid long-chain postsynaptic neurotoxin purified from Naja kaouthia venom. A member of the three-finger toxin family, it is stabilized by five disulfide bridges: Cys3-Cys20, Cys14-Cys41, Cys26-Cys30, Cys45-Cys56 and Cys57-Cys62. The additional Cys26-Cys30 bridge stabilizes the receptor-binding loop II. Alpha-cobratoxin antagonizes muscle-type and neuronal alpha7 nicotinic acetylcholine receptors (nAChRs), preventing acetylcholine-mediated activation and neuromuscular transmission (reported Kd: 55 pM).

TECHNICAL SPECIFICATIONS

Molecular weight	7,820 g/mol	**Purification**	Venom-derived; purified
Solubility	Soluble in water and saline	**Purity**	>99% (HPLC)
Toxicity (LD100)	Mice (i.v.): 100 µg/kg	**Storage**	Dry: stable, protect from light; solution: -20°C

FOR RESEARCH USE ONLY - Not intended for food, diagnostic or therapeutic use.

SELECTED BIBLIOGRAPHIC REFERENCES

1. 2025. De novo designed proteins neutralize lethal snake venom toxins. Nature. doi:10.1038/s41586-024-08393-x.

2. 2024. Mitra A. et al. Computational insight into the peptide-based inhibition of alpha-cobratoxin. Phys. Chem. Chem. Phys. 26:28274-28287. doi:10.1039/D4CP03408B.

3. 2022. Miersch S. et al. Synthetic antibodies block receptor binding and current-inhibiting effects of alpha-cobratoxin from Naja kaouthia. Protein Sci. 31:e4296. doi:10.1002/pro.4296.