Data Sheet (Cat.No.TMPH-03037)

TargetMol

Alpha-cobratoxin Protein, Naja kaouthia, Recombinant (GST & His & Myc)

General Information

Synonyms:	Alpha-CbT;Alpha-elapitoxin-Nk2a (Alpha-EPTX-Nk2a);Alpha-Cbtx;Long neurotoxin 1;Alpha-CT;Alpha-cobratoxin;Siamensis 3;Alpha-Ctx
Protein Construction:	1-71 aa
Species:	Naja kaouthia
Expression Host:	E. coli
Accession:	P01391
Molecular Weight:	37.8 kDa (predicted)
AA Sequence:	IRCFITPDITSKDCPNGHVCYTKTWCDAFCSIRGKRVDLGCAATCPTVKTGVDIQCCSTDNCNPFPTRKRP

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 85% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Tris-based buffer, 50% glycerol

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Monomer: binds with high affinity to muscular (alpha-1-beta-1-gamma-delta/CHRNA1-CHRNB1-CHRNG-CHRND) nAChR (tested on Torpedo californica, Kd=0.2-4.5 nM) and neuronal alpha-7/CHRNA7 nicotinic acetylcholine receptors (Kd=13-105 nM). Also inhibits GABA(A) channels. Heteropentamer targets studied are composed of alpha-1-beta-3-gamma-2 (GABRA1-GABRB3-GABRG2) subunits (IC(50)=236 nM), alpha-1-beta-2-gamma-2 (GABRA1-GABRB2-GABRG2) subunits (IC(50)=469 nM), alpha-2-beta-2-gamma-2 (GABRA2-GABRB2-GABRG2) subunits (IC(50)=485 nM), alpha-5-beta-3-gamma-2 (GABRA5-GABRB3-GABRG2) subunits (IC(50)=635 nM), and

alpha-2-beta-3-gamma-2 (GABRA2-GABRB3-GABRG2) subunits (IC(50)=1099 nM) (activated by 10 uM GABA).; Homodimer: binds with high affinity (but lower than the monomeric form) to muscular (IC(50)=9.7 nM) and with low affinity to neuronal alpha-7/CHRNA7 nAChRs (IC(50)=1370 nM). However, it acquires (compared to the monomeric form) the capacity to block alpha-3/beta-2 (CHRNA3/CHRNB2) nAChRs.; Heterodimer with cytotoxin 3 (AC P01446): is slightly more active than the homodimer in inhibiting alpha-7/CHRNA7 nAChR and is considerably more active in blocking the alpha-3-beta-2/CHRNA3-CHRNB2 nAChR.

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