Print Date: Jun 17th 2024

Certificate of Analysis

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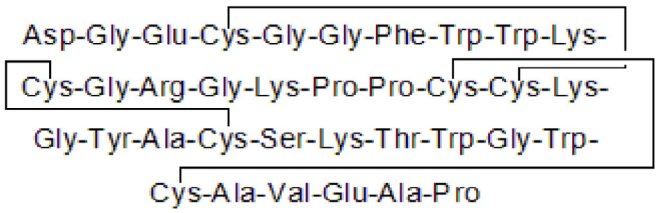
Product Name: **Jingzhaotoxin III** **Catalog No.: 4913** **Batch No.: 11**

CAS Number: 925463-91-8

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	$C_{174}H_{241}N_{47}O_{46}S_6$
Batch Molecular Weight:	3919.5
Physical Appearance:	White solid
Counter Ion:	TFA
Solubility:	Soluble to 1 mg/ml in water
Storage:	Store at -20°C
Peptide Sequence:	

2. ANALYTICAL DATA

HPLC:	Shows 99.2% purity
Mass Spectrum:	Consistent with structure

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CAS Number: 925463-91-8

Description:

Jingzhaotoxin III is a selective blocker of $Na_V1.5$ channels (IC_{50} = 348 nM); displays no effect on other isoforms, including $Na_V1.2$, $Na_V1.4$, $Na_V1.6$ and $Na_V1.7$. Thought to inhibit sodium channel activation by binding to the $Na_V1.5$ S3-S4 linker of domain II. Selectively inhibits the activation of cardiac sodium channels, but has no effect on sodium channels in dorsal root ganglion neurons.

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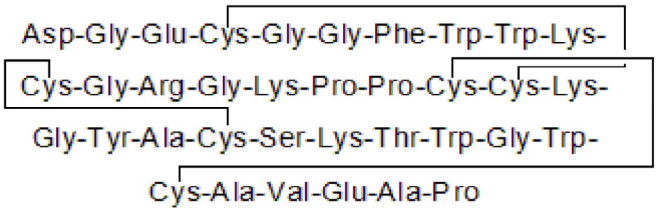

Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 1 mg/ml in water

This product is supplied in lyophilized form. It may appear as a solid, gel or film and be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

Counter Ion: TFA

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Peptides in solution are much less stable than in lyophilized form. This is especially true for peptides whose sequences contain amino acids such Cys, Met,Trp, Asn, Gln, and N-terminal Glu.

Therefore we recommend storing peptides in solution for as short a time as possible. Avoid repeated freeze thaw cycles by dividing the peptide solution into aliquots and storing the aliquots at -20°C. Any portion of an aliquot unused after thawing should be discarded.

Peptides stored in solution can occasionally be susceptible to bacterial degradation. We recommend using sterile solutions or passing the peptide solution through a 0.2 µm filter to remove potential bacterial contamination whenever possible.

References:

Rong *et al* (2011) Molecular basis of the tarantula toxin jingzhaotoxin-III (β-TRTX-Cj1α) interacting with voltage sensors in sodium channel subtype Nav1.5. FASEB J. ***25*** 3177. PMID: 21665957.

Xiao *et al* (2004) Jingzhaotoxin-III, a novel spider toxin inhibiting activation of sodium channel in rat cardiac myocytes. J.Biol.Chem. ***279*** 26220. PMID: 15084603.