Print Date: Apr 22nd 2020

Certificate of Analysis

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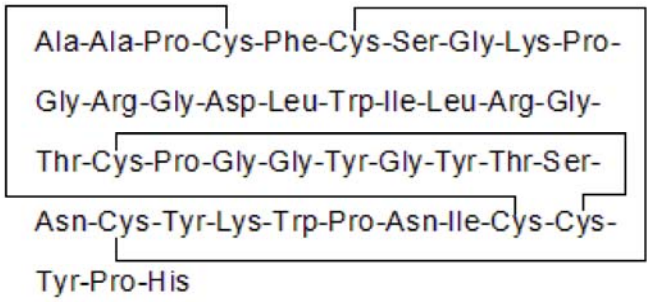
Product Name: BDS I **Catalog No.:** 5184 **Batch No.:** 3

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	$C_{210}H_{297}N_{57}O_{56}S_6$
Batch Molecular Weight:	4708.37
Physical Appearance:	White lyophilised solid
Net Peptide Content:	90%
Counter Ion:	TFA
Solubility:	Soluble to 1 mg/ml in water
Storage:	Store at -20°C
Peptide Sequence:	

2. ANALYTICAL DATA

HPLC:	Shows 99.11% purity

bio-techne.com
info@bio-techne.com
techsupport@bio-techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio-techne.com
Tel: +86 (21) 52380373

Europe Middle East Africa
Tel: +44 (0)1235 529449

Rest of World
www.tocris.com/distributors
Tel:+1 612 379 2956

Product Name: BDS I **Catalog No.: 5184** **Batch No.: 3**

Description:

Potent and reversible $K_v3.4$ potassium channel blocker (IC_{50} = 47 nM); also attenuates inactivation of sodium currents by acting on $Na_v1.7$ and $Na_v1.3$ channels. Enhances TTX-sensitive sodium currents in rat small dorsal root ganglion neurons. Neuroprotective.

Physical and Chemical Properties:

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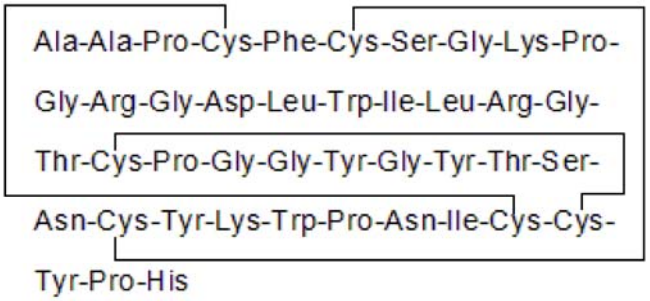
Peptide Sequence:



Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 1 mg/ml in water

This product is supplied as a lyophilised solid and may be very hard to visualise. 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.

Net Peptide Content: 90% (Remaining weight made up of counterions and residual water).

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:

Liu *et al* (2012) Modulation of neuronal sodium channels by the sea anemone peptide BDS-I. J.Neurophysiol. ***107*** 3155. PMID: 22442564.

Pannaccione *et al* (2007) Up-regulation and increased activity of KV3.4 channels and their accessory subunit MinK-related peptide 2 induced by amyloid peptide are involved in apoptotic neuronal death. Mol.Pharmacol. ***72*** 665. PMID: 17495071.

Diochot *et al* (1998) Sea anemone peptides with a specific blocking activity against the fast inactivating potassium channel $K_v3.4$. J.Biol.Chem. ***273*** 6744. PMID: 9506974.