



Certificate of Analysis

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Product Name: OD1 Catalog No.: 5941 Batch No.: 3

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{308}H_{466}N_{90}O_{95}S_8$

Batch Molecular Weight: 7206.1

Physical Appearance: White lyophilised solid

Net Peptide Content: 95%
Counter Ion: TFA

Solubility: Soluble to 1 mg/ml in water

Storage: Store at -20°C

Peptide Sequence: Gly-Val-Arg-Asp-Ala-Tyr-lle-Ala-Asp-Asp-

Gly-Tyr-Cys-Asn-Thr-Glu-Cys-Thr-Lys-Asn-Gly-Ala-Glu-Ser-Gly-Tyr-Cys-Gln-Trp-lle-Gly-Arg-Tyr-Gly-Asn-Ala-Cys-Trp-Cys-Ile-Lys-Leu-Pro-Asp-Glu-Val-Pro-Ile-Arg-Ile-

Pro-Gly-Lys-Cys-Arg-NH₂

2. ANALYTICAL DATA

HPLC: Shows 96.7% purity

Mass Spectrum: Consistent with structure

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

Product Information

Print Date: Mar 12th 2024

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Product Name: OD1 Catalog No.: 5941 3

Description:

OD1 is a potent rat $Na_v1.7$, human $Na_v1.4$ and rat $Na_v1.6$ channel activator (EC50 values are 7, 10 and 47 nM, respectively). Exhibits minimal activation at mammalian $Na_v1.2$, $Na_v1.3$ and $Na_v1.5$ (EC50 values >3 μ M). Inhibits fast inactivation on all channels. Increases peak currents at all voltages and stimulates a persistent Na^+ current at $hNa_v1.7$ channel. Increases hyperpolarization at $Na_v1.4$ and $Na_v1.6$ channels. Induces spontaneous pain in vivo.

Physical and Chemical Properties:

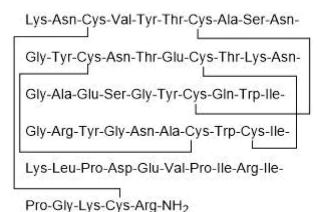
Batch Molecular Formula: C₃₀₈H₄₆₆N₉₀O₉₅S₈

Batch Molecular Weight: 7206.1

Physical Appearance: White lyophilised solid

Peptide Sequence:

Gly-Val-Arg-Asp-Ala-Tyr-Ile-Ala-Asp-Asp-



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.

Net Peptide Content: 95% (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 μ m filter to remove potential bacterial contamination whenever possible.

References:

Durek et al (2013) Chemical engineering and structural and pharmacological characterization of the α -scorpion toxin OD1. ACS Chem.Biol. **8** 1215. PMID: 23527544.

Maertens et al (2006) Potent modulation of the voltage-gated sodium channel $Na_v1.7$ by OD1, a toxin from the scorpion *Odonthobuthus doriae*. Mol.Pharmacol. **70** 405. PMID: 16641312.

Jalali et al (2005) OD1, the first toxin isolated from the venom of the scorpion *Odonthobuthus doriae* active on voltage-gated Natchannels, FEBS Lett. **579** 4181, PMID: 16038905.

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