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TOCRIS

Print Date: Mar 12th 2024

Certificate of Analysis

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Product Name: OD1 **Catalog No.:** 5941 **Batch No.:** 7

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 solid
Counter Ion:	TFA
Solubility:	Soluble to 1 mg/ml in water
Storage:	Store at -20°C
Peptide Sequence:	Gly-Val-Arg-Asp-Ala-Tyr-Ile-Ala-Asp-Asp- Lys-Asn-Cys-Val-Tyr-Thr-Cys-Ala-Ser-Asn- Gly-Tyr-Cys-Asn-Thr-Glu-Cys-Thr-Lys-Asn- Gly-Ala-Glu-Ser-Gly-Tyr-Cys-Gln-Trp-Ile- 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-NH_2

2. ANALYTICAL DATA

HPLC:	Shows 96.8% purity
Mass Spectrum:	Consistent with structure

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Product Name: OD1 **Catalog No.: 5941** **7**

Description:

OD1 is a potent rat $Na_v1.7$, human $Na_v1.4$ and rat $Na_v1.6$ channel activator (EC_{50} values are 7, 10 and 47 nM, respectively). Exhibits minimal activation at mammalian $Na_v1.2$, $Na_v1.3$ and $Na_v1.5$ (EC_{50} values >3 µM). 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.

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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:

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 Na^+ channels. FEBS Lett. ***579*** 4181. PMID: 16038905.