bio-techne
TOCRIS

Print Date: May 22nd 2023

Certificate of Analysis

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Product Name: **IRL-1620** **Catalog No.: 1196** **Batch No.: 16**

CAS Number: 142569-99-1

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{86}H_{117}N_{17}O_{27}$

Batch Molecular Weight: 1820

Physical Appearance: White lyophilised solid

Counter Ion: HCl

Solubility: Soluble to 0.70 mg/ml in water

Storage: Store at -20°C

Peptide Sequence: Suc-Asp-Glu-Glu-Ala-Val-Tyr-Phe-Ala-His-Leu-Asp-Ile-Ile-Trp

2. ANALYTICAL DATA

HPLC: Shows 96.7% purity

Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala	2.00	1.93	Lys		
Arg			Met		
Asx	2.00	2.03	Phe	1.00	1.03
Cys			Pro		
Glx	2.00	2.03	Ser		
Gly			Thr		
His	1.00	1.01	Trp	1.00	Detected
Ile	2.00	1.41	Tyr	1.00	1.01
Leu	1.00	1.01	Val	1.00	0.98

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: **IRL-1620** **Catalog No.: 1196** **16**

CAS Number: 142569-99-1

Description:

IRL-1620 is a potent and highly selective ET_B endothelin receptor agonist (K_i values are 0.016 and 1900 nM at ET_B and ET_A receptors respectively). Discriminates two subpopulations of ET_B receptors. IRL-1620 prevents oxidative stress and cognitive impairment induced by Aβ in normal and diabetic rats; in a rat brain ischemia model it is neuroprotective, increases angiogenesis and neurogenesis, and promotes the recovery of neuronal function. Also promotes neural progenitor cell differentiation and maturation in vivo and in vitro.

Physical and Chemical Properties:

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Peptide Sequence:

Suc-Asp-Glu-Glu-Ala-Val-Tyr-Phe-Ala-His-Leu-Asp-Ile-Ile-Trp

Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 0.70 mg/ml in water

This product is supplied as a lyophilized solid and may 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: HCl

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:

Ranjan *et al* (2020) Sovateltide (IRL-1620) activates neuronal differentiation and prevents mitochondrial dysfunction in adult mammalian brains following stroke. Sci.Rep. ***10*** 12737. PMID: 32728189.

Briyal *et al* (2015) Stimulation of endothelin B receptors by IRL-1620 decreases the progression of Alzheimer's disease. Neuroscience ***301*** 1. PMID: 26022359.

Mazzoni *et al* (1999) Suc-[Glu^9, $Ala^{11,15}$]-endothelin-1 (8-21), IRL 1620, identifies two populations of ET_B receptors in guinea-pig bronchus. Br.J.Pharmacol. ***127*** 1406. PMID: 10455290.