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TOCRIS

Print Date: Aug 3rd 2023

Certificate of Analysis

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Product Name: **IDR 1002** **Catalog No.: 7866** **Batch No.: 1**

CAS Number: 1224095-25-3

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{79}H_{130}N_{26}O_{13}$

Batch Molecular Weight: 1652.06

Physical Appearance: White lyophilised solid

Counter Ion: Trifluoroacetate

Solubility: Soluble to 1 mg/ml in water

Storage: Store at -20°C

Peptide Sequence: Val-Gln-Arg-Trp-Leu-Ile-Val-Trp-Arg-Ile-Arg-Lys-NH_2

2. ANALYTICAL DATA

HPLC: Shows 97.7% purity

Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala			Lys	1.00	1.00
Arg	3.00	2.97	Met		
Asx			Phe		
Cys			Pro		
Glx	1.00	1.03	Ser		
Gly			Thr		
His			Trp	2.00	1.53
Ile	2.00	1.87	Tyr		
Leu	1.00	0.99	Val	2.00	1.83

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Product Name: **IDR 1002** **Catalog No.: 7866** **1**

CAS Number: 1224095-25-3

Description:

IDR 1002 is an innate defence regulator peptide. It reduces bacterial burden and inflammatory responses in murine models of sinusitis infection and bacterial acute lung infection. It inhibits LPS- induced NF-κB and COX-2 and induces the phosphorylation/activation of p38, ERK1/2, MSK1, and CREB.

Physical and Chemical Properties:

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Batch Molecular Weight: 1652.06

Physical Appearance: White lyophilised solid

Peptide Sequence:

Val-Gln-Arg-Trp-Leu-Ile-Val-Trp-Arg-Ile-Arg-Lys-NH_2

Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 1 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: Trifluoroacetate

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:

Alford *et al* (2021) Murine model of sinusitis infection for screening antimicrobial and immunomodulatory therapies. Front.Cell.Infect.Microbiol. ***11*** 621081. PMID: 33777834.

Wuerth *et al* (2018) Characterization of host responses during pseudomonas aeruginosa acute infection in the lungs and blood and after treatment with the synthetic immunomodulatory peptide IDR-1002. Infect.Immun. ***87*** e00661. PMID: 30323028.

Huante-Mendoza *et al* (2016) Peptide IDR-1002 inhibits NF-κB nuclear translocation by inhibition of IκBα degradation and activates p38/ERK1/2-MSK1-dependent CREB phosphorylation in macrophages stimulated with lipopolysaccharide. Front.Immunol. ***7*** 533. PMID: 27933067.