Print Date: Aug 25th 2022

Certificate of Analysis

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Product Name: **BAM (8-22)** **Catalog No.: 1763** **Batch No.: 16**

CAS Number: 412961-36-5

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{91}H_{127}N_{25}O_{23}S$

Batch Molecular Weight: 1971.22

Physical Appearance: White lyophilised solid

Counter Ion: TFA

Solubility: Soluble to 1 mg/ml in water

Storage: Store at -20°C

Peptide Sequence: Val-Gly-Arg-Pro-Glu-Trp-Trp-Met-Asp-Tyr-Gln-Lys-Arg-Tyr-Gly

2. ANALYTICAL DATA

HPLC: Shows 98.2% purity

Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala			Lys	1.00	1.03
Arg	2.00	1.96	Met	1.00	1.00
Asx	1.00	1.01	Phe		
Cys			Pro	1.00	1.01
Glx	2.00	2.02	Ser		
Gly	2.00	2.03	Thr		
His			Trp	2.00	Detected
Ile			Tyr	2.00	1.94
Leu			Val	1.00	0.99

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Product Name: **BAM (8-22)** **Catalog No.: 1763** **16**

CAS Number: 412961-36-5

Description:

BAM (8-22) is an endogenous peptide fragment that is a potent agonist for MRGPRX1 (EC_{50} values are 8 - 150 nM). It was first isolated from bovine adrenal medulla. Unlike BAM 22P (Cat. No. 1650), BAM (8-22) does not contain the met-enkephalin motif therefore displays no affinity for opioid receptors. BAM (8-22) augments scratching behavior in a cholestatic pruritus mice model. BAM (8-22) attenuates bone cancer pain in mice.

Physical and Chemical Properties:

Batch Molecular Formula: $C_{91}H_{127}N_{25}O_{23}S$

Batch Molecular Weight: 1971.22

Physical Appearance: White lyophilised solid

Peptide Sequence:

Val-Gly-Arg-Pro-Glu-Trp-Trp-Met-Asp-Tyr-Gln-Lys-Arg-Tyr-Gly

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: 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:

Sanjel *et al* (2019) BAM8-22 and its receptor MRGPRX1 may attribute to cholestatic pruritus. Sci.Rep. ***9*** 10888. PMID: 31350433.

Sun *et al* (2016) Activation of spinal MrgC-Gi-NR2B-nNOS signaling pathway by Mas oncogene-related gene C receptor agonist bovine adrenal medulla 8-22 attenuates bone cancer pain in mice. Am.J.Transl.Res. ***8*** 1144. PMID: 27158400.

Solinski *et al* (2014) Pharmacology and signaling of MAS-related G protein-coupled receptors. Pharmacol.Rev ***66*** 570. PMID: 24867890.