

Certificate of Analysis

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Product Name: BAM 22P
CAS Number: 76622-26-9

Catalog No.: 1650 **Batch No.:** 3

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₃₀H₁₈₄N₃₈O₃₁S₂
Batch Molecular Weight: 2839.24
Physical Appearance: White lyophilised solid
Net Peptide Content: 80%
Solubility: Soluble to 1 mg/ml in water
Storage: Desiccate at -20°C
Peptide Sequence: Tyr-Gly-Gly-Phe-Met-Arg-Arg-Val-Gly-Arg-
 Pro-Glu-Trp-Trp-Met-Asp-Tyr-Gln-Lys-Arg-
 Tyr-Gly

2. ANALYTICAL DATA

HPLC: Shows >95% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical			Actual		
Ala			Lys	1.00	1.01
Arg	4.00	4.04	Met	2.00	2.20
Asx	1.00	1.00	Phe	1.00	0.91
Cys			Pro	1.00	1.02
Glx	2.00	2.01	Ser		
Gly	4.00	3.98	Thr		
His			Trp	2.00	
Ile			Tyr	3.00	3.06
Leu			Val	1.00	0.87

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

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Description:

Potent endogenous agonist peptide for Mas-related G proteins-coupled receptor X1 (MRGPRX1); isolated from bovine adrenal medulla (EC₅₀ values are 16 - 800 nM) Also potent opioid agonist (IC₅₀ = 1.3 nM in guinea pig ileum preparation). Produces opioid- and non-opioid receptor mediated antinociceptive effects in vivo.

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

Storage: Desiccate 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.

Net Peptide Content: 80% (Remaining weight made up of counterions and residual water).

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:

- Hong et al** (2004) Dual effects of intrathecal BAM22 on nociceptive responses in acute and persistent pain - potential function of a novel receptor. *Br.J.Pharmacol.* **141** 423. PMID: 14718254.
- Lembo et al** (2002) Proenkephalin A gene products activate a new family of sensory neuron-specific GPCRs. *Nat.Neurosci.* **5** 201. PMID: 11850634.
- Simonin and Kieffer** (2002) Two faces for an opioid peptide - and more receptors for pain research. *Nat.Neurosci.* **5** 185. PMID: 11865303.
- Mizuno et al** (1980) A new family of endogenous "big" met-enkephalins from bovine adrenal medulla: purification and structure of docosa- (BAM-22P) and eicosapeptide (BAM-20P) with very potent opiate activity. *Biochem.Biophys.Res.Comm.* **97** 1283. PMID: 7213356.

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