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Print Date: Dec 18th 2020

Certificate of Analysis

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Product Name: **Motilin (human, porcine)** **Catalog No.: 2264** **Batch No.: 5**

CAS Number: 52906-92-0

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{120}H_{188}N_{34}O_{35}S$

Batch Molecular Weight: 2699.07

Physical Appearance: White lyophilised solid

Net Peptide Content: 81.3%

Counter Ion: TFA

Solubility: Soluble to 1 mg/ml in water

Storage: Desiccate at -20°C

Peptide Sequence: Phe-Val-Pro-Ile-Phe-Thr-Tyr-Gly-Glu-Leu-Gln-Arg-Met-Gln-Glu-Lys-Glu-Arg-Asn-Lys-Gly-Gln

2. ANALYTICAL DATA

HPLC: Shows 96.1% purity

Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala			Lys	2.00	2.01
Arg	2.00	1.99	Met	1.00	0.98
Asx	1.00	0.99	Phe	2.00	1.97
Cys			Pro	1.00	1.00
Glx	6.00	6.07	Ser		
Gly	2.00	1.95	Thr	1.00	0.86
His			Trp		
Ile	1.00	0.98	Tyr	1.00	1.02
Leu	1.00	0.96	Val	1.00	0.94

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Product Name: **Motilin (human, porcine)** **Catalog No.: 2264** **Batch No.: 5**

CAS Number: 52906-92-0

Description:

Endogenous motilin receptor ligand (K_i = 2.3 nM) that regulates gastrointestinal motor function. Stimulates contraction of gut smooth muscle (EC_{50} = 1 nM) and increases pepsin release.

Physical and Chemical Properties:

Batch Molecular Formula: $C_{120}H_{188}N_{34}O_{35}S$

Batch Molecular Weight: 2699.07

Physical Appearance: White lyophilised solid

Peptide Sequence:

Phe-Val-Pro-Ile-Phe-Thr-Tyr-Gly-Glu-Leu-Gln-Arg-Met-Gln-Glu-Lys-Glu-Arg-Asn-Lys-Gly-Gln

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: 81.3% (Remaining weight made up of counterions and residual water).

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:

Huang *et al* (2005) Signaling pathways mediating gastrointestinal smooth muscle contraction and MLC20 phosphorylation by motilin receptors. Am.J.Physiol.Gastrointest.Liver Physiol. ***288*** G23. PMID: 15591586.

Coulie *et al* (2001) Identification of peptide ligand-binding domains within the human motilin receptor using photoaffinity labeling. J.Biol.Chem. ***276*** 35518. PMID: 11461914.

Itoh (1997) Motilin and clinical application. Peptides ***18*** 593. PMID: 9210180.