

Certificate of Analysis

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Product Name: Motilin (human, porcine)

Catalog No.: 2264

Batch No.: 4

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:	82%
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 96.9% purity
Mass Spectrum:	Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical Actual			Amino Acid Theoretical Actual		
Ala			Lys	2.00	2.02
Arg	2.00	1.98	Met	1.00	0.99
Asx	1.00	1.00	Phe	2.00	1.97
Cys			Pro	1.00	1.00
Glx	6.00	6.07	Ser		
Gly	2.00	1.99	Thr	1.00	0.87
His			Trp		
Ile	1.00	0.98	Tyr	1.00	1.03
Leu	1.00	0.93	Val	1.00	1.04

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

Product Name: Motilin (human, porcine)**Catalog No.:** 2264**Batch No.:** 4

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 $-20^{\circ}C$ **Solubility & Usage Info:**

Soluble to 1 mg/ml in water

Net Peptide Content: 82% (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 $45-60^{\circ}C$ 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 as 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 $-20^{\circ}C$. 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 $0.2 \mu m$ 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.

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