

Certificate of Analysis

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Product Name: Gastrin I (human)

Catalog No.: 3006

Batch No.: 12

CAS Number: 10047-33-3

EC Number: 233-157-0

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₉₇H₁₂₄N₂₀O₃₁S
Batch Molecular Weight: 2098.22
Physical Appearance: White lyophilised solid
Counter Ion: TFA
Solubility: Soluble to 1 mg/ml in 1% Ammonia with sonication
Storage: Store at -20°C
Peptide Sequence: Glp-Gly-Pro-Trp-Leu-Glu-Glu-Glu-Glu-Glu-Ala-Tyr-Gly-Trp-Met-Asp-Phe-NH₂

2. ANALYTICAL DATA

HPLC: Shows 97.9% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical		Actual		Amino Acid Theoretical		Actual	
Ala	1.00	0.96	Lys				
Arg			Met	1.00	0.96		
Asx	1.00	1.04	Phe	1.00	1.03		
Cys			Pro	1.00	0.99		
Glx	6.00	6.06	Ser				
Gly	2.00	1.96	Thr				
His			Trp	2.00	1.40		
Ile			Tyr	1.00	1.05		
Leu	1.00	0.95	Val				

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

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Description:

Gastrin I (human) is an endogenous peptide produced in the stomach that acts as a selective CCK2 receptor agonist. Gastrin I stimulates gastric acid secretion and has a mitogenic effect on gastric cells. Gastrin I stimulates gastric epithelial cell proliferation and histamine secretion (EC₅₀ values are 6.2 pM and 0.014 nM, respectively). Gastrin I is also used in the culture of stomach, intestine and pancreas organoids. For more information about using Gastrin I in the generation of gastric organoids see the Human Gastric Organoid Culture Protocol. Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

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Physical Appearance: White lyophilised solid

Peptide Sequence:

Glp-Gly-Pro-Trp-Leu-Glu-Glu-Glu-Glu-
Glu-Ala-Tyr-Gly-Trp-Met-Asp-Phe-NH₂

Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 1 mg/ml in 1% Ammonia with sonication

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 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°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:

Bartfeld et al (2015) *In vitro* expansion of human gastric epithelial stem cells and their responses to bacterial infection. *Gastroenterology* **148** 126. PMID: 25307862.

Sato et al (2015) SnapShot: Growing Organoids from Stem Cells. *Cell* **161** 1700. PMID: 26091044.

Mahe et al (2014) Establishment of gastrointestinal epithelial organoids *Curr.Protoc. Mouse Biol.* **3** 217. PMID: 25105065.

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