

Certificate of Analysis

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Product Name: GIP (human)

Catalog No.: 2084

Batch No.: 13

CAS Number: 100040-31-1

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₂₆H₃₃₈N₆₀O₆₆S
Batch Molecular Weight: 4983.58
Physical Appearance: White solid
Counter Ion: TFA
Solubility: Soluble to 1 mg/ml in water
Storage: Store at -20°C
Peptide Sequence: Tyr-Ala-Glu-Gly-Thr-Phe-Ile-Ser-Asp-Tyr-
 Ser-Ile-Ala-Met-Asp-Lys-Ile-His-Gln-Gln-
 Asp-Phe-Val-Asn-Trp-Leu-Leu-Ala-Gln-Lys-
 Gly-Lys-Lys-Asn-Asp-Trp-Lys-His-Asn-Ile-
 Thr-Gln

2. ANALYTICAL DATA

HPLC: Shows 96.0% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid		Theoretical	Actual	Amino Acid		Theoretical	Actual
Ala	3.00	3.01	Lys	5.00	5.01		
Arg			Met	1.00	0.91		
Asx	7.00	6.06	Phe	2.00	2.01		
Cys			Pro				
Glx	5.00	5.12	Ser	2.00	1.46		
Gly	2.00	2.01	Thr	2.00	1.67		
His	2.00	1.99	Trp	2.00	0.20		
Ile	4.00	3.93	Tyr	2.00	1.92		
Leu	2.00	2.02	Val	1.00	1.06		

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

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Description:

GIP (human) is a potent insulinotropic hormone synthesized by duodenal K-cells. High affinity GIP receptor agonist (EC₅₀ = 0.81 nM) that inhibits gastric acid secretion and stimulates pancreatic insulin release in response to glucose. Also affects lipid metabolism and displays mitogenic and antiapoptotic effects in pancreatic β-cells.

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Peptide Sequence:

Tyr-Ala-Glu-Gly-Thr-Phe-Ile-Ser-Asp-Tyr-
Ser-Ile-Ala-Met-Asp-Lys-Ile-His-Gln-Gln-
Asp-Phe-Val-Asn-Trp-Leu-Leu-Ala-Gln-Lys-
Gly-Lys-Lys-Asn-Asp-Trp-Lys-His-Asn-Ile-
Thr-Gln

Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 1 mg/ml in water

This product is supplied in lyophilized form. It may appear as a solid, gel or film and 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:

Meier et al (2002) Gastric inhibitory polypeptide: the neglected incretin revisited. *Regul. Peptides* **107** 1.

Trumper et al (2001) Glucose-dependent Insotropic polypeptide is a growth factor for β (INS-1) cells by pleiotropic signaling. *Mol. Endocrinol.* **15** 1159.

Wheeler et al (1995) Functional expression of the rat pancreatic islet glucose-dependent Insotropic polypeptide receptor: ligand binding and intracellular signaling properties. *Endocrinol.* **136** 4629.

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