

# PRODUCT INFORMATION



## Gastric Inhibitory Peptide (human) (trifluoroacetate salt)

Item No. 25004

<b>Formal Name:</b>	L-tyrosyl-L-alanyl-L- $\alpha$ -glutamylglycyl-L-threonyl-L-phenylalanyl-L-isoleucyl-L-seryl-L- $\alpha$ -aspartyl-L-tyrosyl-L-seryl-L-isoleucyl-L-alanyl-L-methionyl-L- $\alpha$ -aspartyl-L-lysyl-L-isoleucyl-L-histidyl-L-glutamyl-L-glutamyl-L- $\alpha$ -aspartyl-L-phenylalanyl-L-valyl-L-asparaginyl-L-tryptophyl-L-leucyl-L-leucyl-L-alanyl-L-glutamyl-L-lysylglycyl-L-lysyl-L-lysyl-L-asparaginyl-L- $\alpha$ -aspartyl-L-tryptophyl-L-lysyl-L-histidyl-L-asparaginyl-L-isoleucyl-L-threonyl-L-glutamine, trifluoroacetate salt	H-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-OH
<b>Synonyms:</b>	GIP, Glucose-dependent Insulinotropic Peptide	
<b>MF:</b>	C <sub>226</sub> H <sub>338</sub> N <sub>60</sub> O <sub>66</sub> S • XCF <sub>3</sub> COOH	
<b>FW:</b>	4,983.5	• XCF <sub>3</sub> COOH
<b>Purity:</b>	≥95%	
<b>Supplied as:</b>	A lyophilized powder	
<b>Storage:</b>	-20°C	
<b>Stability:</b>	≥4 years	

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Gastric inhibitory peptide (GIP) (human) (trifluoroacetate salt) is supplied as a lyophilized powder. A stock solution may be made by dissolving the GIP (human) (trifluoroacetate salt) in water. The solubility of GIP (human) (trifluoroacetate salt) in water is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

GIP is an endogenous 42-amino acid peptide incretin hormone that induces insulin secretion in response to glucose.<sup>1</sup> It belongs to the secretin/glucagon superfamily of peptides, which includes secretin (Item Nos. 24990 | 24561), glucagon (Item No. 24204), glucagon-like peptide-1 (GLP-1; Item No. 24460), GLP-2 (Item No. 24414), and pituitary adenylate cyclase-activating polypeptide (PACAP; Item Nos. 24769 | 24770).<sup>2</sup> GIP is a GIP receptor agonist that binds to rat recombinant GIP receptors expressed in CHO-K1 cells (IC<sub>50</sub> = 3.2 nM) and increases cAMP accumulation (EC<sub>50</sub> = 377 pM).<sup>3</sup> It stimulates insulin secretion from BRIN-BD11 rat pancreatic  $\beta$ -cells when used at a concentration of 10 nM.<sup>4</sup> GIP (1 pmol/min per 100 g) decreases blood glucose level and increases plasma insulin level in rats following glucose challenge.<sup>3</sup> It also decreases plasma glucose level and increases insulin level in *ob/ob* mice following glucose challenge when administered at a dose of 25 nmol/kg.<sup>5</sup>

### References

1. Baggio, L.L. and Drucker, D.J. *Gastroenterology* **132**(6), 2131-2157 (2007).
2. Vaudry, D., Falluel-Morel, A., Bourgault, S., et al. *Pharmacol. Rev.* **61**(3), 283-357 (2009).
3. Hinke, S.A., Manhart, S., Pamir, N., et al. *Biochim. Biophys. Acta* **1547**(1), 143-155 (2001).
4. Kerr, B.D., Flatt, A.J., Flatt, P.R., et al. *Biochem. Biophys. Res. Commun.* **404**(3), 870-876 (2011).
5. O'Harte, F.P., Hunter, K., Gault, V.A., et al. *Am. J. Physiol. Endocrinol. Metab.* **292**(6), E1674-E1682 (2007).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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