

## Acetyl Gastric Inhibitory Peptide (human) (TFA)

<b>Cat. No.:</b>	HY-P3580A
<b>Molecular Formula:</b>	$C_{228}H_{340}N_{60}O_{67}S.C_2HF_3O_2$
<b>Molecular Weight:</b>	5139.62
<b>Sequence:</b>	Ac-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 <small>Ac-YAEGTFISDYSIAMDKIHQQDFVNWLLAQKGGKNDWKHNITQ (TFA salt)</small>
<b>Sequence Shortening:</b>	Ac-YAEGTFISDYSIAMDKIHQQDFVNWLLAQKGGKNDWKHNITQ
<b>Target:</b>	Insulin Receptor
<b>Pathway:</b>	Protein Tyrosine Kinase/RTK
<b>Storage:</b>	Sealed storage, away from moisture Powder    -80°C    2 years -20°C    1 year * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

### SOLVENT & SOLUBILITY

#### In Vitro

H<sub>2</sub>O : 50 mg/mL (9.73 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent	Mass	1 mg	5 mg	10 mg
	Concentration				
	1 mM		0.1946 mL	0.9728 mL	1.9457 mL
	5 mM		0.0389 mL	0.1946 mL	0.3891 mL
	10 mM		---	---	---

Please refer to the solubility information to select the appropriate solvent.

### BIOLOGICAL ACTIVITY

#### Description

Acetyl Gastric Inhibitory Peptide (human) TFA is a fatty acid derivatized analog of glucose-dependent insulinotropic polypeptide with improved antihyperglycaemic and insulinotropic properties. Acetyl Gastric Inhibitory Peptide (human) TFA can be used for research of diabetes, insulin resistance and obesity<sup>[1][2][3]</sup>.

#### In Vitro

Acetyl Gastric Inhibitory Peptide (human) TFA induces cyclic adenosine 3'5' monophosphate (cAMP) production with an EC<sub>50</sub> value of 1.9 nM in Chinese hamster lung fibroblast cells transfected with the human GIP receptor<sup>[1]</sup>. Acetyl Gastric Inhibitory Peptide (human) TFA (10<sup>-13</sup>-10<sup>-8</sup> nM) shows potent effect at stimulating insulin release compared to the native GIP in BRIN-BD11 cells<sup>[1]</sup>. Acetyl Gastric Inhibitory Peptide (human) TFA improves glucose intolerance, type 2 diabetes, beta-cell glucose insensitivity, insulin resistance and reduced insulin secretion<sup>[2]</sup>. Acetyl Gastric Inhibitory Peptide (human) TFA has metabolic stability and hypoglycemic and insulin modulating activities of two fatty acid derivatized N-terminally acetylated GIP analogs were evaluated in in vitro and in vivo<sup>[3]</sup>.

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	MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	Acetyl Gastric Inhibitory Peptide (human) TFA (25 nmol/kg; i.p.; single dose) shows resistance to plasma dipeptidylpeptidase IV degradation, resulting in enhanced biological activity and improved antidiabetic potential in vivo <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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## REFERENCES

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- [1]. O'Harte FP, et al. Improved stability, insulin-releasing activity and antidiabetic potential of two novel N-terminal analogues of gastric inhibitory polypeptide: N-acetyl-GIP and pGlu-GIP. *Diabetologia*. 2002 Sep;45(9):1281-91.
- [2]. Gault Victor A, et al. GIP peptide analogues for treatment of diabetes, insulin resistance and obesity: World Intellectual Property Organization, WO2005082928[P]. 2005-12-01.
- [3]. O'Harte, et al. Analogs of gastric inhibitory polypeptide as a treatment for age related decreased pancreatic beta cell function: World Intellectual Property Organization, WO2007028632[P].2007-03-15.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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