Acetyl Gastric Inhibitory Peptide (human)

Cat. No.:	HY-P3580
CAS No.:	299898-33-2
Molecular Formula:	$C_{228}H_{340}N_{60}O_{67}S$
Molecular Weight:	5025.6
Sequence:	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
Sequence Shortening:	Ac-YAEGTFISDYSIAMDKIHQQDFVNWLLAQKGKKNDWKHNITQ
Target:	Insulin Receptor
Pathway:	Protein Tyrosine Kinase/RTK
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description

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

In Vitro

Acetyl Gastric Inhibitory Peptide (human) induces cyclic adenosine 3'5' monophosphate (cAMP) production with an EC_{50} value of 1.9 nM in Chinese hamster lung fibroblast cells transfected with the human GIP receptor[1].

Acetyl Gastric Inhibitory Peptide (human) (10^{-13}-10^{-8} nM) shows potent effect at stimulating insulin release compared to the native GIP in BRIN-BD11 cells[1].

Acetyl Gastric Inhibitory Peptide (human) improves glucose intolerance, type 2 diabetes, beta-cell glucose insensitivity, insulin resistance and reduced insulin secretion[2].

Acetyl Gastric Inhibitory Peptide (human) 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[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Acetyl Gastric Inhibitory Peptide (human) (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[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Obese hyperglycaemic (ob/ob) mice[1]
Dosage:	25 nmol/kg
Administration:	Intraperitoneal injection; single dose
Result:	Lowered individual glucose values at 60 min together with the areas under the curve for glucose compared to native GIP.

REFERENCES

[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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