Glucagon-like peptide 1 (1-37), human

Cat. No.:	HY-P1145
CAS No.:	87805-34-3
Molecular Formula:	$C_{186}H_{275}N_{51}O_{59}$
Molecular Weight:	4169.48
Sequence:	His-Asp-Glu-Phe-Glu-Arg-His-Ala-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Val-Ser-Ser-Tyr-Leu-Glu-Gly-Gln-Ala-Ala-Lys-Glu-Phe-Ile-Ala-Trp-Leu-Val-Lys-Gly-Arg-Gly
Sequence Shortening:	HDEFERHAEGTFTSDVSSYLEGQAAKEFIAWLVKGRG
Target:	GCGR
Pathway:	GPCR/G Protein
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	Glucagon-like peptide 1 (1-37), human is a highly potent agonist of the GLP-1 receptor.
IC_{50} & Target	GLP-1 receptor[1]
In Vitro	Glucagon-like peptide-1 (GLP-1) is produced by the posttranslational processing of proglucagon and acts as a regulator of various homeostatic events. GLP-1(1-37) is more stable than GLP-1(7-37), with 94.7% of the initial amount of peptide left after a 4h exposure to mouse serum. GLP-1(1-37) is confirmed to be a highly potent agonist of the GLP-1 receptor (GLP-1R) by measuring the expression of the luciferase reporter gene expression in transiently transfected human embryonic kidney (HEK293) cells[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	GLP-1(1–37) decreased glycemic excursion in a dose-dependent. The administration of GLP-1(1–37) or GLP-1(7–37) markedly decrease blood glucose levels at 15 min and 30 min compared with the control group[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [1]	HEK293 cells (5×10^4) are seeded in a 96-well plate and transiently cotransfected with the GLP-1R plasmid and the CRE-luciferase reporter plasmid. After a 48 h transfection, different concentrations of GLP-1(1–37) or GLP-1(7–37) are added, and the cells are incubated for 5 h. The cells are harvested for a luciferase assay using a luciferase assay[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [1]	Mice[1] The normal KM mice are fasted for 16 h before the administration (i.p.) of GLP-1 and glucose. GLP-1(1-37) (25 nmol/kg) with or without exendin(9-39) (250 nmol/kg) is given in combination with glucose (4 g/kg). GLP-1(7-37) (25 nmol/kg) with or without exendin(9-39) (250 nmol/kg) is also administrated in combination with glucose (4 g/kg). The control group is treated with saline (NaCl, 9 g/l) and glucose (4 g/kg). The IPGTT is carried out at 0, 15, 30 and 60 min after glucose and protein

	administration, and the blood glucose levels are measured as described above[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Zhao L, et al. Glucagon-like peptide-1(1-37) can enhance blood glucose homeostasis in mice. Regul Pept. 2012 Oct 10;178(1-3):1-5.

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