GZR18

Cat. No.:	HY-P10269
Molecular Formula:	$C_{189}H_{295}N_{45}O_{59}$
Molecular Weight:	4141.63
Sequence:	His-Gly-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Val-Ser-Ser-Tyr-Leu-Glu-Gly-Gln-Ala-Ala-Lys(Ala-Glu-Glu-Ala-Ala-Glu-Glu-Ala-gammaGlu-C22 diacid)-Glu-Phe-Ile-Ala-Trp-Leu-Val-Arg-Gly-Arg-Gly
Sequence Shortening:	HGEGTFTSDVSSYLEGQAA-K(AEEA-AEEA-gammaGlu-C22 diacid)-EFIAWLVRGRG
Target:	GLP Receptor
Pathway:	GPCR/G Protein
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	GZR18 is an analog of glucagon-like peptide-1 (GLP-1), which exhibits agonistic activity for GLP-1 receptor, with an EC_{50} of 0.677 nM. GZR18 ameliorates type 2 diabetes[1].
IC_{50} & Target	EC_{50}: 0.677 nM (GLP-1 Receptor)
In Vitro	GZR18 (30-90 nM, 0.5-1 h) stimulates glucose-dependent insulin secretion in mouse pancreatic islet β-cells in a dose-dependent manner[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	GZR18 (0-100 nmol/kg, s.c., single dose or 11 dosages) decreases blood glucose levels and body weight dose-depedently, and exhibits glycemic control property in db/db mice model[1]. GZR18 (60 μg/kg, iv or sc, single dose) reveals a pharmacokinetic profil in cynomolgus monkey model[1].

Pharmacokinetic Analysis of GZR18 in cynomolgus monkey[1]

route	Dose (μg/kg)	$T_{1/2}$ (h)	T_{max} (h)	C_{max} (ng/mL)	AUC_{0-t} (ng·h/mL))	AUC_{0-inf} (ng·h/mL)	MRT (h)	V_d/F (kg/mL)	CL/F (h/g·mL)	F (%)
s.c.	60	61.3	14	527	51800	55700	75.2	96.6	1.1	73.3
i.v.	60	61.6	0.167	1640	70700	74800	59.2	59.4	0.803	-

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Animal Model:	Type 2 diabete in db/db mice[1]
Dosage:	0-100 nmol/kg
Administration:	s.c., single dose or once every 3 days for 33 days

Result:	Lowered blood glucose levels, suppressed food and water intake and improved glucose homeostasis.

REFERENCES

[1]. Zhang M, et al., GZR18, a novel long-acting GLP-1 analog, demonstrated positive in vitro and in vivo pharmacokinetic and pharmacodynamic characteristics in animal models. Eur J Pharmacol. 2022 Aug 5;928:175107.

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