Liraglutide

Cat. No.: HY-P0014

CAS No.: 204656-20-2

Molecular Formula: $C_{172}H_{265}N_{43}O_{51}$

Molecular Weight: 3751.26

Sequence Shortening: HAEGTFTSDVSSYL-{N6-[N-(1-oxohexadecyl)-L-γ-Etamyl]-Glu}-GQAAKEFIAWLVRGRG

N6-[N-(1-oxohexadecyl)-L-γ-glytamyl]
HAEGTFTSDV SSYLEGQAAK EFIAWLVRGR G

Target: GCGR

Pathway: GPCR/G Protein

Storage: Sealed storage, away from moisture and light
Powder -80°C 2 years
-20°C 1 year
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)

SOLVENT & SOLUBILITY

In Vitro

H_2O : 9.09 mg/mL (2.42 mM; ultrasonic and adjust pH to 3 with HCl)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	0.2666 mL	1.3329 mL	2.6658 mL
	5 mM	---	---	---
	10 mM	---	---	---

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

BIOLOGICAL ACTIVITY

Description Liraglutide is a glucagon-like peptide-1 (GLP-1) receptor agonist used clinically to treat type 2 diabetes mellitus.

IC_{50} & Target GLP-1 receptor[1]

In Vitro Liraglutide binds to the same receptors as does the endogenous metabolic hormone GLP-1. Liraglutide is an injectable drug for the treatment of type 2 diabetes, also can be used to treat obesity in adults with some related comorbidity. Liraglutide activated AMPK/SREBP1 pathway in oxLDL-stimulated Raw264.7 cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [1]	Raw264.7 macrophage cells are cultured in Dulbecco's modified Eagle's medium supplemented with 10% fetal bovine serum in a humidified 37°C incubator with 5% CO_2. The cells are incubated with oxLDL (50 μg/mL), Liraglutide (0.1, 0.5, 1 and 2 nM) or Exendin-3 (9-39) (1, 10 and 100 nM) alone, or in combination[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Sci Adv. 2022 Jul 22;8(29):eabn3773.
- iScience. 2023: 105938.
- Front Pharmacol. 2020 Feb 28;11:136.
- Int J Mol Sci. 2019 Apr 2;20(7). pii: E1629.
- J Biol Chem. 2021 May 19;100807.

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REFERENCES

[1]. Wang Y,et al. Transformation of oligomers of lipidated peptide induced by change in pH.Mol Pharm. 2015 Feb 2;12(2):411-9.

[2]. Wang YG, et al. Liraglutide reduces oxidized LDL-induced oxidative stress and fatty degeneration in Raw 264.7 cells involving the AMPK/SREBP1 pathway.J Geriatr Cardiol. 2015 Jul;12(4):410-416.

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