Product Data Sheet

Product Name: Semaglutide-FITC
Cat. No.: GC79195

Chemical Properties

Cas. No.			
Formula	$C_{214}H_{314}N_{48}O_{65}S$	M.Wt	4631.13
Solubility	DMSO: 5 mg/mL (1.08 mM; ultrasonic and warming and heat to 60°C)	Storage	Sealed storage, away from moisture
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			

His-{Aib}-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Val-Ser-Ser-Tyr-Leu-Glu-Gly-Gln-Ala-Ala-{C18 diacid-γ-Glu-(AEEA)2-Lys}-Glu-Phe-Ile-Ala-Trp-Leu-Val-Arg-Gly-Arg-Gly-Lys(FITC)

Background

Semaglutide -FITC (Semaglutide-Lys(FITC)) is a fluorescent tracer probe (Ex/Em = 495/520 nm) obtained by covalently coupling the green fluorescent dye fluorescein isothiocyanate (FITC) to the long-acting analogue of GLP-1, Semaglutide. Semaglutide -FITC can be used for studies on Semaglutide receptor binding (GLP-1R), cell uptake and endocytosis, in vivo tissue distribution, and the targeting efficiency of delivery systems [1] [2] [3] [4] [5] [6].

Caution: Product has not been fully validated for medical applications. For research use only.
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In Vitro, Semaglutide is a long-acting, selective, competitive GLP-1R agonist that can penetrate the blood-brain barrier. After activating GLP-1R, Semaglutide promotes insulin secretion, inhibits gastric emptying and appetite, and at the same time enhances autophagy, inhibits oxidative stress and apoptosis. Semaglutide also regulates mitochondrial function and lipid metabolism (such as reducing de novo lipogenesis in the liver). Semaglutide has activities such as lowering blood sugar, reducing weight, neuroprotection (such as improving motor function in Parkinson's disease models, reducing α-synuclein aggregation) and improving hepatic steatosis. Semaglutide can be used for the study of neurodegenerative diseases and liver diseases such as type 2 diabetes, obesity, Parkinson's disease, metabolic associated fatty liver disease (MASLD), and cancer[1][2][3][4][5][6].

References:

[1]. Chang YF, et al. Semaglutide-mediated protection against Aβ correlated with enhancement of autophagy and inhibition of apotosis. J Clin Neurosci. 2020 Nov;81:234-239.
[2]. Liu DX, et al. Semaglutide Protects against 6-OHDA Toxicity by Enhancing Autophagy and Inhibiting Oxidative Stress. Parkinsons Dis. 2022 Jul 13;2022:6813017.
[3]. Wang C, et al. Semaglutide, a glucagon-like peptide-1 receptor agonist, inhibits oral squamous cell carcinoma growth through P38 MAPK signaling pathway. J Cancer Res Clin Oncol. 2025 Mar 7;151(3):103.
[4]. Zhang L, et al. Semaglutide is Neuroprotective and Reduces α-Synuclein Levels in the Chronic MPTP Mouse Model of Parkinson's Disease. J Parkinsons Dis. 2019;9(1):157-171.
[5]. Soto-Catalán M, et al. Semaglutide Improves Liver Steatosis and De Novo Lipogenesis Markers in Obese and Type-2-Diabetic Mice with Metabolic-Dysfunction-Associated Steatotic Liver Disease. Int J Mol Sci. 2024 Mar 4;25(5):2961.
[6]. Stephen T Buckley, et al. Transcellular stomach absorption of a derivatized glucagon-like peptide-1 receptor agonist. Sci Transl Med. 2018 Nov 14;10(467):eaar7047.

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