

Semaglutide TFA

Chemical Properties

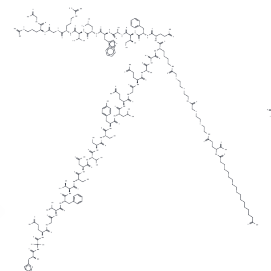
CAS No. :

Formula: C189H290F3N45O61

Molecular Weight: 4225.6482

Storage: Store at low temperature, Keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Semaglutide TFA is a glucagon-like peptide-1 congener that induces weight loss, lowers blood glucose levels, and reduces cardiovascular risk in diabetic patients. Semaglutide TFA induces mild-to-moderate and transient gastrointestinal disturbances, and may be used in the study of type 2 diabetes and obesity.
Targets(IC50)	Glucagon Receptor
In vitro	Semaglutide TFA is a modified GLP-1 analog with two substitutions (Aib and Arg) at amino acids 8 and 34 and a chemical modification of the lysine at position 26 compared to human GLP-1. It has an affinity for the GLP-1 receptor of 0.38 nM. [1] The amino acid sequence of Semaglutide TFA shares 94% homology with human GLP-1. [3]
In vivo	The plasma half-life of Semaglutide TFA was 46 hours after intravenous injection and the mean retention time (MRT) was 63.6 hours after subcutaneous injection in a small pig study.[1] Semaglutide TFA significantly ameliorated dyskinesia induced by 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP). In addition, it protects dopaminergic neurons in the brain by restoring tyrosine hydroxylase (TH) levels, attenuating inflammatory responses, reducing lipid peroxidation, inhibiting apoptosis and promoting the expression of autophagy-related proteins. Semaglutide TFA shows better results in most aspects compared to liraglutide. [2] Semaglutide TFA lowers blood glucose by promoting insulin secretion and is also effective in reducing body weight. [3]

Solubility Information

Solubility	H2O: 80 mg/mL (18.93 mM), Sonication is recommended. DMSO: 80 mg/mL (18.93 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.2366 mL	1.1832 mL	2.3665 mL
5 mM	0.0473 mL	0.2366 mL	0.4733 mL
10 mM	0.0237 mL	0.1183 mL	0.2366 mL
50 mM	0.0047 mL	0.0237 mL	0.0473 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Marso SP, et al. Semaglutide and Cardiovascular Outcomes in Patients with Type 2 Diabetes. N Engl J Med. 2016 Nov 10;375(19):1834-1844.

Zhang L, et al. Neuroprotective effects of the novel GLP-1 long acting analogue semaglutide in the MPTP Parkinson's disease mouse model. Neuropeptides. 2018 Oct;71:70-80.

Dhillon S, et al. Semaglutide: First Global Approval. Drugs. 2018 Feb;78(2):275-284.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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