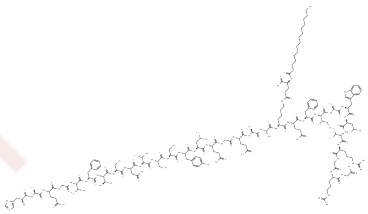
Data Sheet (Cat.No.T6876)

TargetMol

Liraglutide

Chemical Properties



CAS No. : 204656-20-2

Formula: C172H265N43O51

Molecular Weight: 3751.25

Storage: Keep away from moisture,Store at low temperature,
Keep away from direct sunlight
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	Liraglutide (Liraglutida) is a synthetic analog of glucagon-like peptide-1 (GLP-1), an agonist of the GLP-1 receptor. Liraglutide can be used to treat type 2 diabetes and chronic obesity.
Targets(IC50)	Glucagon Receptor
In vitro	**METHODS**: Human hepatocellular carcinoma cells HepG2 were treated with Liraglutide (5-20 μM) for 48 h. Cell viability was measured by direct cell counting. **RESULTS**: Incubation for 48 h with 15 μM and 20 μM of Liraglutide resulted in a significant decrease in cell proliferation compared to the control. [1] **METHODS**: Pancreatic βTC-6 cells were treated with Liraglutide (1 nM) for 3-30 min, and the expression levels of target proteins were detected by Western Blot. **RESULTS**: Treatment of cells with Liraglutide resulted in an increase in phosphorylation of the pro-survival kinase AKT at Ser47 3 over time compared to untreated cells. [2]
In vivo	**METHODS**: To investigate the effects on diabetes, Liraglutide (100 μg/kg) was administered intraperitoneally once daily for two weeks to a BKS mouse model of type 2 diabetes. **RESULTS**: Liraglutide restored islet size, reduced islet β-cell apoptosis, and improved nephrin expression, a protein involved in β-cell survival signaling.Liraglutide protected βTC-6 cells from serum withdrawal-induced apoptosis by inhibiting caspase-3 activation. [2]
Kinase Assay	Assay of ProRS activity: The prolyl tRNA synthetase domain of human EPRS (ProRS) is expressed in E.coli with a 6-his tag and purified. Enzymatic activity is assayed using incorporation of 3H Pro into the tRNA fraction essentially, except that the charged tRNA fraction is isolated by rapid batchwise binding to Mono Q sepharose and quantitated by liquid scintillation counting. For all kinetic assays, the concentration of active enzyme in the reaction is 40 nM. Similar inhibition by HF is seen using the human ProRS domain purified from bacteria and full length EPRS purified from rat liver.
Cell Research	C11-STH cells are cultured to confluence at 37°C in gelatin-coated Nunclon cell culture dishes in Media-199 supplemented with penicillin/streptomycin, 20% FCS, 20 μg/ml endothelial cell growth factor and 20 μg/ml heparin. C11-STH cells are incubated under serum free conditions with liraglutide (100 nM) or the GLP-1 receptor antagonist exendin (9-39) (100 nM) alone or with 10 ng/ml TNFα for 16 h alone or in combination with

Cell Research	liraglutide and/or exendin (9-39). ELISA assays for VCAM-1 and ICAM-1 are performed using conditioned medium from C11-STH cells to determine protein expression levels. (Only for Reference)

Solubility Information

Solubility	H2O: 5 mg/mL (1.33 mM),when pH is adjusted to 8 with NaOH. Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.2666 mL	1.3329 mL	2.6658 mL
5 mM	0.0533 mL	0.2666 mL	0.5332 mL
10 mM	0.0267 mL	0.1333 mL	0.2666 mL
50 mM	0.0053 mL	0.0267 mL	0.0533 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

Krause GC, et al. Liraglutide, a glucagon-like peptide-1 analog, induce autophagy and senescence in HepG2 cells. Eur J Pharmacol. 2017 Aug 15;809:32-41.
Ni X, Feng X, Wang Z, et al.Empagliflozin and liraglutide ameliorate HFpEF in mice via augmenting the Erbb4 signaling pathway.Acta Pharmacologica Sinica.2024: 1-14.
Abdulreda MH, et al. Cell Metab. 2016, 23(3):541-6.
Gaspari T, et al. Diab Vasc Dis Res. 2011, 8(2):117-24.