Data Sheet (Cat.No.T73707)

TargetMol

Insulin Detemir

Chemical Properties

CAS No. : 169148-63-4

Formula: C267H402N64O76S6

Molecular Weight:

Storage: 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	Insulin Detemir is a long-acting synthetic insulin analogue that effectively controls blood glucose levels by stimulating GLP-1 secretion through enhanced glucagon gene expression and activation of Akt- and/or ERK-dependent signaling pathways. Insulin Detemir is widely employed in type 2 diabetes research to investigate molecular mechanisms of insulin signaling, glucose homeostasis, and therapeutic interventions.
Targets(IC50)	ERK,Akt,Glucagon Receptor
In vitro	For primary fetal rat intestinal cell (FRIC) cultures, Insulin Detemir (100 nM, 0.5-4 hours) can upregulate the expression level of Gcg mRNA, while Insulin Detemir (100 nM, 5 minutes and 10 minutes) induces rapid phosphorylation of Akt [1]. When Insulin Detemir (100 nM) acts for 5-120 minutes, it not only increases the phosphorylation level of β-catenin and promotes its nuclear translocation, but also enhances the phosphorylation of cAMP response element-binding protein (CREB) in a manner dependent on phosphatidylinositol 3-kinase and/or mitogen-activated protein kinase kinase/extracellular signal-regulated kinase [1].
In vivo	When Insulin Detemir is administered via intraperitoneal injection at a dose of 5 IU/kg, once daily for 2 weeks, it not only reduces body weight compared to other insulin preparations but also exhibits a preferential effect on intestinal tissues. This phenomenon may be associated with the activation of the insulin/catenin/CREB signaling pathway [1].

Reference

Liu S, et al. Insulin detemir enhances proglucagon gene expression in the intestinal L cells via stimulating β-catenin and CREB activities. Am J Physiol Endocrinol Metab. 2012 Sep 15;303(6):E740-51.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481