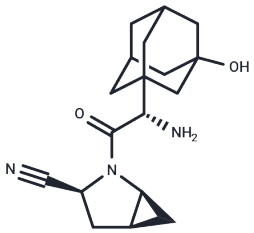
Data Sheet (Cat.No.T0178)

TargetMol

Saxagliptin hydrate

Chemical Properties



CAS No. : 945667-22-1

Formula: C18H25N3O2·H2O

Molecular Weight: 333.43

Storage: 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	Saxagliptin hydrate (Onglyza hydrate) is a selective and reversible DPP4 inhibitor (IC50: 26 nM; Ki: 1.3 nM).
Targets(IC50)	Proteasome,DPP-4
In vitro	In vitro, saxagliptin inhibits FBS-, insulin- and IGF1-induced ERK phosphorylation and cell proliferation, in both MSC and MC3T3E1 preosteoblasts. In the absence of growth factors, saxagliptin has no effect on ERK activation or cell proliferation. In both MSC and MC3T3E1 cells, saxagliptin in the presence of FBS inhibits Runx2 and osteocalcin expression, type-1 collagen production and mineralization, while increasing PPAR-gamma expression[4].
In vivo	Saxagliptin exerts direct beneficial effects on the arterial wall in an animal model of type 2 diabetes by increasing NO availability and improving antioxidant status. Saxagliptin reverses vascular hypertrophic remodeling and ameliorates NO availability in small arteries from db/db mice through the abrogation of NAD(P)H oxidase-driven eNOS uncoupling and by reducing the action of cyclooxygenase-1-derived vasoconstrictors downregulating the expression of thromboxane-prostanoid receptors [2]. DPP-4 inhibition with saxagliptin also improves pancreatic β-cell function in postprandial and fasting states, and decreases postprandial glucagon concentration[3].
Cell Research	Sub-confluent cells are serum-starved overnight and then incubated with 1.5 or 15 μM saxagliptin and/or FBS (1%), insulin (5 ng/mL) or IGF1 (10-8 M) for 24 h (effects on cell proliferation) or 1 h (effects on signal transduction mechanisms). (Only for Reference)

Solubility Information

Solubility	DMSO: 70 mg/mL (209.94 mM),Sonication is recommended. H2O: 1 mg/mL (3 mM),Sonication is recommended. Ethanol: 61 mg/mL (182.95 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (6 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may*

In vivo Formulation	*vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.9991 mL	14.9957 mL	29.9913 mL
5 mM	0.5998 mL	2.9991 mL	5.9983 mL
10 mM	0.2999 mL	1.4996 mL	2.9991 mL
50 mM	0.060 mL	0.2999 mL	0.5998 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

Neumiller JJ, et al. Am J Health Syst Pharm. 2010, 67(18):1515-25.
Solini A, et al. Vascul Pharmacol. 2016, 76:62-71.
Henry RR, et al. Diabetes Obes Metab. 2011, 13(9):850-8.
Sbaraglini ML, et al. Eur J Pharmacol. 2014, 727:8-14.