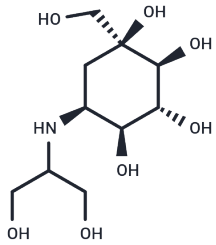
Data Sheet (Cat.No.T6723)

TargetMol

Voglibose

Chemical Properties



CAS No. : 83480-29-9

Formula: C10H21NO7

Molecular Weight: 267.28

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	Voglibose (Glustat), an N-substituted derivative of valiolamine, exhibits excellent inhibitory activity against α-glucosidases and action against hyperglycemia and various disorders caused by hyperglycemia.
Targets(IC50)	Glucosidase,glycosidase
In vitro	Voglibose can inhibit the intestinal α-glucosidases, which are responsible for the digestion of disaccharides such as maltose and sucrose, including maltase and sucrase. The Ki values of Voglibose for sucrase and maltase are about 106and 105 times smaller than the Km values for sucrose and maltose. [1]
In vivo	Voglibose (0.2 mg/kg) completely inhibits the insulin response to sucrose in rats. Voglibose (0.2 mg/kg) reduces the carbohydrate-induced increase in blood glucose in rats. Voglibose (0.2 mg/kg) reduces the carbohydrate-induced increase in blood glucose without causing sustained hypoglycemia in both normal and neonatal streptozotocin-induced diabetic rats. [2] Voglibose (0.001%) treatment increases GLP-1 secretion (Voglibose alone, 1.6-fold; Alogliptin plus Voglibose, 1.5-fold), while it decreases plasma glucose-dependent insulinotropic polypeptide (GIP) (Voglibose alone, 30%; Alogliptin plus voglibose, 29%) in prediabetic db/db mice after 3 weeks. Voglibose (0.001%) treatment decreases plasma DPP-4 activity by 15% in prediabetic db/db mice. Voglibose (0.001%) treatment increases plasma insulin by 1.8-fold and decreases plasma glucagon by 8% in prediabetic db/db mice. [3] Voglibose (0.001% and 0.005%) stimulates GLP-1 secretion in ob/ob mice, as evidenced by the 1.3- to 1.5-fold increase in plasma active plus inactive amidated GLP-1 levels. Voglibose (0.001% and 0.005%) decreases plasma DPP-4 activity unexpectedly by 40% to 51% in ob/ob mice, resulting from reduced plasma DPP-4 concentrations. Voglibose (0.001% and 0.005%) increases GLP-1 content by 1.5- to 1.6-fold and 1.4- to 1.6-fold in the lower intestine and colon, respectively, in ob/ob mice. [4]

Solubility Information

Solubility	DMSO: 100 mg/mL (374.14 mM),Sonication is recommended. H2O: 26.7 mg/mL (99.9 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.7414 mL	18.707 mL	37.4139 mL
5 mM	0.7483 mL	3.7414 mL	7.4828 mL
10 mM	0.3741 mL	1.8707 mL	3.7414 mL
50 mM	0.0748 mL	0.3741 mL	0.7483 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

Chen X, et al. Curr Med Chem, 2006, 13(1), 109-116.
Ikenoue T, et al. Biol Pharm Bull, 1997, 20(4), 354-359.
Moritoh Y, et al. Diabetes Obes Metab, 2010, 12(3), 224-233.
Moritoh Y, et al. J Pharmacol Exp Ther, 2009, 329(2), 669-676.