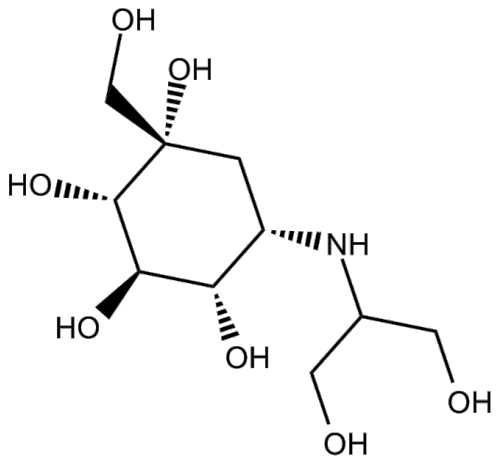
Product Data Sheet

Product Name: Voglibose
Cat. No.: GC18007

Chemical Properties

Cas. No.	83480-29-9		
Chemical Name	(1S,2S,3R,4S,5S)-5-(1,3-dihydroxypropan-2-ylamino)-1-(hydroxymethyl)cyclohexane-1,2,3,4-tetrol		
SMILES	C1C(C(C(C(C1(CO)O)O)O)O)NC(CO)CO		
Formula	$C_{10}H_{21}NO_7$	M.Wt	267.28
Solubility	≥ 12.95mg/mL in DMSO with gentle warming	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		

Structure



Background

Voglibose is an N-substituted derivative of valiolamine, excellent inhibitory activity against α-glucosidases and its action against hyperglycemia and various disorders caused by hyperglycemia.Target: α-glucosidasesglibose 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]. 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].

References:

[1]. Chen, X., Y. Zheng, and Y. Shen, Voglibose (Basen, AO-128), one of the most important alpha-glucosidase inhibitors. Curr Med Chem, 2006. 13(1): p. 109-16.
[2]. Ikenoue, T., et al., Effect of a new hypoglycemic agent, A-4166 [(-)-N-(trans-4-isopropylcyclohexanecarbonyl)-D-phenylalanine], on postprandial blood glucose excursion: comparison with voglibose and glibenclamide. Biol Pharm Bull, 1997. 20(4): p. 354-9.
[3]. Moritoh, Y., K. Takeuchi, and M. Hazama, Combination treatment with alogliptin and voglibose increases active GLP-1 circulation, prevents the development of diabetes and preserves pancreatic beta-cells in prediabetic db/db mice. Diabetes Obes Metab, 2010. 12(3): p. 224-33.

Caution: Product has not been fully validated for medical applications. For research use only.
Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA