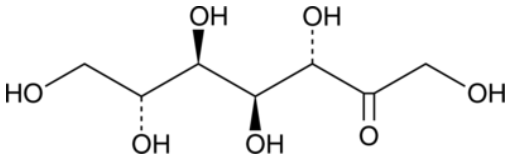
Product Data Sheet

Product Name: D-Mannoheptulose
Cat. No.: GC43500

Chemical Properties

Cas. No.	3615-44-9		
SMILES	OC[C@@H](O)[C@@H](O)[C@H](O)[C@H](O)C(CO)=O		
Formula	C7H14O7	M.Wt	210.2
Solubility	DMF: 20 mg/ml,DMSO: 20 mg/ml,Ethanol: 1 mg/ml,PBS (pH 7.2): 10 mg/ml	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

D-Glucose is phosphorylated by glucokinase and three tissue-specific hexokinases to produce glucose-6-phosphate in humans. D-Mannoheptulose is a heptose that inhibits glucokinases and hexokinases from diverse organisms through competition with D-glucose (Ki = 0.25 mM). It blocks glucose oxidation and glucose-mediated insulin release from pancreatic islet cells. D-Mannoheptulose prevents the conversion of glucose to glucose-6-phosphate that can mediate the activation of the carbohydrate response element binding protein. By blocking glucose phosphorylation, D-mannoheptulose causes transient hyperglycemia in dogs when given at 1 g/kg but not at 8 mg/kg, although postprandial energy expenditure is increased at the lower dose.

Caution: Product has not been fully validated for medical applications. For research use only.
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