

Product Data Sheet

Product Name: β -D-Glucose

Cat. No.: GC40777

Chemical Properties

Cas. No. 492-61-5

SMILES O[C@@H]1O[C@H](CO)[C@@H](O)[C@H](O)[C@H]1O

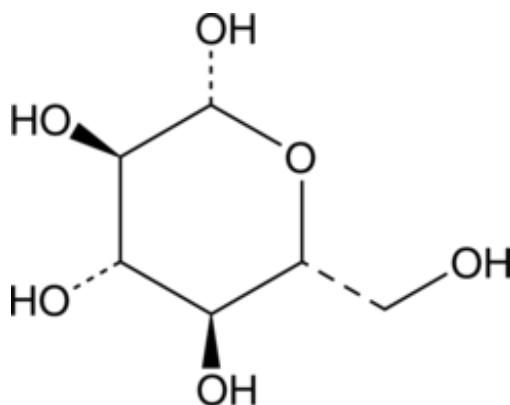
Formula $C_6H_{12}O_6$ M.Wt 180.2

Solubility 20mg/mL in DMSO, 10mg/mL in DMF, 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, a naturally occurring monosaccharide found in plants, is the primary energy source for living organisms.[1] It is utilized as a metabolic intermediate by cells for either aerobic or anaerobic respiration. D-Glucose exists in two cyclic forms, α -D-glucose and β -D-glucose, based on the position of the substituent at the anomeric center.[2] α -D-Glucose is the monomer unit in starch, whereas β -D-glucose is the monomer unit in cellulose.2 When one of these anomers is added to solution, it undergoes reversible epimerization to the other via an open-chain form, during which the specific rotation of the solution changes gradually until it reaches equilibrium. The existence of multiple binding modes of this single monosaccharide has been studied as a model scaffold to design

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

Product Data Sheet

compounds with increased probability of ligand binding.[3]

Reference:

- [1]. Slein, M.W. D-glucose, determination with hexokinase and glucose-6-phosphate dehydrogenase. Methods of Enzymatic Analysis 1, 117-123 (1963).
- [2]. Horton, H.R. Carbohydrates. Principles of biochemistry 9, 16-22 (1993).
- [3]. Hirschmann, R.F., Nicolaou, K.C., Angeles, A.R., et al. The β -D-glucose scaffold as a β -turn mimetic. Accounts of Chemical Research 42(10), 1511-1520 (2009).

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