

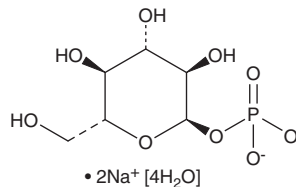
PRODUCT INFORMATION



α -D-Glucose-1-phosphate (sodium salt hydrate)

Item No. 30566

CAS Registry No.: 150399-99-8
Formal Name: 1-(dihydrogen phosphate) α -D-glucopyranose tetrahydrate, disodium salt
Synonym: α -D-Glc 1-P
MF: $C_6H_{11}O_9P \cdot 2Na [4H_2O]$
FW: 376.2
Purity: $\geq 95\%$
Supplied as: A crystalline solid
Storage: $-20^\circ C$
Stability: ≥ 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

α -D-Glucose-1-phosphate (sodium salt hydrate) is supplied as a crystalline solid. Aqueous solutions of α -D-glucose-1-phosphate (sodium salt hydrate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of α -D-glucose-1-phosphate (sodium salt hydrate) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

α -D-Glucose-1-phosphate is an intermediate in glycogen metabolism.^{1,2} It is a precursor in the biosynthesis of UDP-glucose, the glucose donor in glycogen biosynthesis.² α -D-Glucose-1-phosphate can be formed during glycogen breakdown via phosphorolytic cleavage of glycogen by glycogen phosphorylase.¹ It can be converted to glucose-6-phosphate by phosphoglucosmutase. α -D-Glucose-1-phosphate is combined with CTP by α -D-glucose-1-phosphate cytidyltransferase to form CDP-glucose in the first step of CDP-D-tyvelose biosynthesis in *S. typhi*.³ Bacterial sucrose phosphorylase converts sucrose and phosphate into D-fructose and α -D-glucose-1-phosphate.⁴

References

1. Berg, J.M., Tymoczko, J.L., and Stryer, L. Glycogen breakdown requires the interplay of several enzymes. *Biochemistry*. 5th edition, W H Freeman (2002).
2. Berg, J.M., Tymoczko, J.L., and Stryer, L. Glycogen is synthesized and degraded by different pathways. *Biochemistry*. 5th edition, W H Freeman (2002).
3. Koropatkin, N.M. and Holden, H.M. Molecular structure of α -D-glucose-1-phosphate cytidyltransferase from *Salmonella typhi*. *J. Biol. Chem.* **279(42)**, 44023-44029 (2004).
4. Goedl, C., Schwarz, A., Minani, A., et al. Recombinant sucrose phosphorylase from *Leuconostoc mesenteroides*: Characterization, kinetic studies of transglucosylation, and application of immobilised enzyme for production of α -D-glucose 1-phosphate. *J. Biotechnol.* **129(1)**, 77-86 (2007).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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