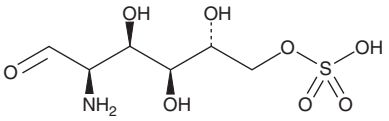
PRODUCT INFORMATION

D-Glucosamine-6-sulfate

Item No. 23097

CAS Registry No.: 91674-26-9
Formal Name: 2-amino-2-deoxy-D-glucose 6-(hydrogen sulfate)
Synonym: GlcN-6S
MF: $C_6H_{13}NO_8S$
FW: 259.2
Purity: ≥95%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

D-Glucosamine-6-sulfate is supplied as a crystalline solid. A stock solution may be made by dissolving the D-glucosamine-6-sulfate in the solvent of choice, which should be purged with an inert gas. D-Glucosamine-6-sulfate is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of D-glucosamine-6-sulfate in these solvents is approximately 2 and 0.5 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of D-glucosamine-6-sulfate can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of D-glucosamine-6-sulfate in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

D-Glucosamine-6-sulfate is a naturally occurring glycosaminoglycan.[1] It activates the glmS ribozyme from *B. subtilis*, a Gram-positive bacterium, when used at a concentration of 200 µM.[2] It has been used to form polyvalent dendrimer conjugates that inhibit angiogenesis and endothelial cell proliferation induced by FGF-2 *in vitro* and prevent scar tissue formation in a rabbit model of glaucoma surgery.[3]

References

1. Foot, M. and Mulholland, M. Classification of chondroitin sulfate A, chondroitin sulfate C, glucosamine hydrochloride and glucosamine 6 sulfate using chemometric techniques. *J. Pharm. Biomed. Anal.* **38(3)**, 397-407 (2005).
2. Roth, A., Nahvi, A., Lee, M., *et al.* Characteristics of the *glmS* ribozyme suggest only structural roles for divalent metal ions. *RNA* **12(4)**, 607-619 (2006).
3. Shaunak, S., Thomas, S., Gianasi, E., *et al.* Polyvalent dendrimer glucosamine conjugates prevent scar tissue formation. *Nat. Biotechnol.* **22(8)**, 977-984 (2004).

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