3-Deoxy-D-glycero-D-galacto-2-nonulosonic Acid
Item No. 17862

CAS Registry No.: 153666-19-4
Formal Name: 3-deoxy-D-glycero-D-galacto-2-nonulopyranosonic acid
Synonyms: Deaminoneuraminic acid, KDN, Ketodeoxynonulosonic acid
MF: C₉H₁₆O₉
FW: 268.2
Purity: ≥95%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid

Labratory Procedures

For long term storage, we suggest that 3-deoxy-D-glycero-D-galacto-2-nonulosonic acid be stored as supplied at -20°C. It should be stable for at least two years.

3-Deoxy-D-glycero-D-galacto-2-nonulosonic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the 3-deoxy-D-glycero-D-galacto-2-nonulosonic acid in the solvent of choice. 3-deoxy-D-glycero-D-galacto-2-nonulosonic acid is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of 3-deoxy-D-glycero-D-galacto-2-nonulosonic acid in these solvents is approximately 30 and 10 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 3-deoxy-D-glycero-D-galacto-2-nonulosonic acid can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 3-deoxy-D-glycero-D-galacto-2-nonulosonic acid in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Sialic acids, commonly present as terminal carbohydrates on glycoconjugates, are essential for a variety of cellular functions including cell adhesion and signal recognition, as well as the formation and progression of tumors. 3-Deoxy-D-glycero-D-galacto-2-nonulosonic acid is a deaminated sialic acid that was first identified at the nonreducing ends of oligosialyl chains in rainbow trout egg glycoprotein. It is thought to be a precursor for the biosynthesis of other members of the sialic acid family. 3-Deoxy-D-glycero-D-galacto-2-nonulosonic acid can be used to analyze nonulosonic acid residues in polysialylglycoproteins.

References