Lactobionic Acid
Item No. 18926

CAS Registry No.: 96-82-2
Formal Name: 4-O-β-D-galactopyranosyl-D-gluconic acid
Synonym: Galactosylgluconic Acid
MF: C_{12}H_{22}O_{12}
FW: 358.3
Purity: ≥95%
Supplied as: A crystalline solid
Storage: Room temperature
Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly

Laboratory Procedures

Lactobionic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the lactobionic acid in the solvent of choice. Lactobionic acid is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of lactobionic acid in these solvents is approximately 20 mg/ml. 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 lactobionic acid can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of lactobionic 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

Lactobionic acid is a disaccharide acid consisting of gluconic acid and galactose. This polyhydroxylated acid has antioxidant, chelating, and humectant properties and, as a result, has numerous applications in the food, medicine, pharmaceutical, cosmetics, and chemical industries.\(^1,2\) For example, lactobionic acid has been used to acidify membrane preparations, construct nanoparticles, and improve compound solubility.\(^3-5\)

References