

---

## Product Data Sheet

---

Product Name: N-Acetyl-D-mannosamine monohydrate

Cat. No.: GC38325

**Chemical Properties**

Cas. No. 7772-94-3

SMILES CC(N[C@@H]1[C@@H](O[C@@H]([C@H]([C@@H]1O)O)CO)O)=OFormula C<sub>8</sub>H<sub>15</sub>NO<sub>6</sub>

M.Wt 221.21

Solubility DMF: 2 mg/ml, DMSO: 5 mg/ml, Ethanol: 0.2 mg/ml, PBS  
(pH 7.2): 5 mg/mlStorage 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**

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.<sup>1</sup> Disruption of sialic acid biosynthesis can result in severe glomerular proteinuria or neuromuscular disorders such as hereditary inclusion body myopathy (HIBM).<sup>2</sup> N-Acetyl-D-mannosamine (ManNAc) is the precursor of all physiological sialic acids. Intraperitoneal injection of ManNAc twice daily at 1,000 mg/kg in C57BL/6 mice for 13 days leads to increased sialylation in kidney, liver, blood cells, brain, spinal cord, muscle, heart, lung, and spleen.<sup>3</sup> ManNAc reverses hyposialylation and improves glomerular integrity in GneM712T/M712T mice whose key enzyme for sialic acid production has been deleted and may prove therapeutic in the treatment of HIBM.<sup>2</sup>

1. Schwarzkopf, M., Knobeloch, K.P., Rohde, E., et al. Sialylation is essential for early development in mice Proc. Natl. Acad. Sci. USA 99(8)5267-5270(2002) 2. Galeano, B., Klootwijk, R., Manoli, I., et al. Mutation in the key enzyme of sialic acid biosynthesis

**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

---

causes severe glomerular proteinuria and is rescued by N-acetylmannosamine]. Clin. Invest. 117(6):1585-1594(2007) 3. Gagiannis, D., Gossrau, R., Reutter, W., et al. Engineering the sialic acid in organs of mice using N-propanoylmannosamine. Biochim. Biophys. Acta 1770:297-306(2007)

**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**