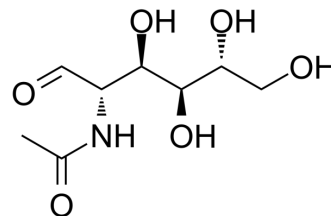


N-Acetyl-D-mannosamine

| | |
|---------------------------|--|
| Cat. No.: | HY-128850 |
| CAS No.: | 3615-17-6 |
| Molecular Formula: | C ₈ H ₁₅ NO ₆ |
| Molecular Weight: | 221.21 |
| Target: | Bacterial; Endogenous Metabolite |
| Pathway: | Anti-infection; Metabolic Enzyme/Protease |
| Storage: | 4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light) |



SOLVENT & SOLUBILITY

| | | | | | |
|----------------------------------|--|------|-----------|------------|------------|
| In Vitro | H ₂ O : 125 mg/mL (565.07 mM; Need ultrasonic) | | | | |
| | Solvent Concentration | Mass | 1 mg | 5 mg | 10 mg |
| Preparing Stock Solutions | 1 mM | | 4.5206 mL | 22.6030 mL | 45.2059 mL |
| | 5 mM | | 0.9041 mL | 4.5206 mL | 9.0412 mL |
| | 10 mM | | 0.4521 mL | 2.2603 mL | 4.5206 mL |
| | Please refer to the solubility information to select the appropriate solvent. | | | | |
| In Vivo | 1. Add each solvent one by one: PBS Solubility: 25 mg/mL (113.01 mM); Clear solution; Need ultrasonic | | | | |

BIOLOGICAL ACTIVITY

| | |
|-------------------------------------|--|
| Description | N-Acetyl-D-mannosamine (ManNAc) is an essential precursor of N-acetylneuraminic acid (NeuAc), the specific monomer of bacterial capsular polysialic acid (PA) ^[1] . N-Acetyl-D-mannosamine (ManNAc) can be metabolized by GNE and GlcNAc 2-epimerase (Renin binding protein, RnBP), into ManNAc-6-phosphate and GlcNAc, respectively. N-Acetyl-d-mannosamine (ManNAc) and its derivatives activates hypocretin (HCRT) gene expression in the orexin neurons, providing a potential model for the testing of a therapy for neural disorders ^[2] . |
| IC₅₀ & Target | Human Endogenous Metabolite |

REFERENCES

[1]. Revilla-Nuin B, et al. Transport of N-acetyl-D-mannosamine and N-acetyl-D-glucosamine in Escherichia coli K1: effect on capsular polysialic acid production. FEBS Lett. 2002 Jan 30;511(1-3):97-101.

[2]. Hayakawa K, et al. Reactivation of hyperglycemia-induced hypocretin (HCRT) gene silencing by N-acetyl-d-mannosamine in the orexin neurons derived from human iPS cells. Epigenetics. 2017 Sep;12(9):764-778.

Caution: Product has not been fully validated for medical applications. For research use only.

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