

## N-Acetyl-D-galactosamine

## Chemical Properties

CAS No. :	14215-68-0
Formula:	C <sub>8</sub> H <sub>15</sub> NO <sub>6</sub>
Molecular Weight:	221.208
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>

## Biological Description

Description	N-Acetyl-D-galactosamine (GalNAc) is a terminal essential amino sugar derived from galactose and forms the antigens of blood group A in humans.
Targets(IC50)	Others,Endogenous Metabolite,Galectin
In vitro	N-Acetyl-D-galactosamine (GalNAc or D-GalNAc) on the damage induced by SBA on the membrane permeability and tight junction proteins of piglet intestinal epithelium (IPEC-J2) cells. The IPEC-J2 cells were pre-cultured with 0, 0.125 × 10 <sup>-4</sup> , 0.25 × 10 <sup>-4</sup> , 0.5 × 10 <sup>-4</sup> , 1.0 × 10 <sup>-4</sup> and 2.0 × 10 <sup>-4</sup> mmol/L GalNAc at different time period (1, 2, 4 and 8 hr) before being exposed to 0.5 mg/ml SBA for 24 hr.Pre-incubation with GalNAc mitigates the mechanical barrier injury as reflected by a significant increase in trans-epithelial electric resistance (TEER) value and a decrease in alkaline phosphatase (ALP) activity in cell culture medium pre-treated with GalNAc before incubation with SBA as both indicate a reduction in cellular membrane permeability. In addition, mRNA levels of the tight junction proteins occludin and claudin-3 were lower in the SBA-treated groups without pre-treatment with GalNAc. The mRNA expression of occludin was reduced by 17.3% and claudin-3 by 42% (p < 0.01). Moreover, the corresponding protein expression levels were lowered by 17.8% and 43.5% (p 0.05) respectively. However, in the GalNAc pre-treated groups, occludin and claudin-3 mRNAs were reduced by 1.6% (p > 0.05) and 2.7% (p < 0.01), respectively, while the corresponding proteins were reduced by 4.3% and 7.2% (p < 0.05). In conclusion, GalNAc may prevent the effect of SBA on membrane permeability and tight junction proteins on IPEC-J2s.

## Solubility Information

Solubility	H <sub>2</sub> O: 250.00 mg/mL (1130.16 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
------------	---

### Preparing Stock Solutions

---

	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	4.5206 mL	22.603 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
50 mM	0.0904 mL	0.4521 mL	0.9041 mL

---

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Zhao B, Che D, Adams S, et al. N-Acetyl-d-galactosamine prevents soya bean agglutinin-induced intestinal barrier dysfunction in intestinal porcine epithelial cells[J]. J Anim Physiol Anim Nutr (Berl). 2019 Jul;103(4):1198-1206.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel: 781-999-4286 E\_mail: info@targetmol.com Address: 34 Washington Street, Wellesley Hills, MA 02481