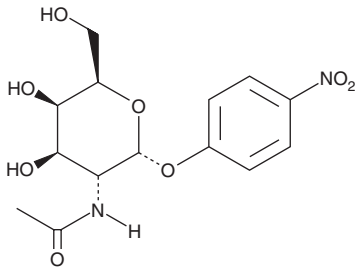
PRODUCT INFORMATION

4-Nitrophenyl-N-acetyl-α-D-galactosaminide

Item No. 16755

CAS Registry No.:	23646-68-6
Formal Name:	4-nitrophenyl 2-(acetylamino)-2-deoxy-α-D-galactopyranoside
Synonym:	*p*NP-GlcNAc
MF:	$C_{14}H_{18}N_2O_8$
FW:	342.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 219, 295 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

4-Nitrophenyl-N-acetyl-α-D-galactosaminide is supplied as a crystalline solid. A stock solution may be made by dissolving the 4-nitrophenyl-N-acetyl-α-D-galactosaminide in the solvent of choice, which should be purged with an inert gas. 4-Nitrophenyl-N-acetyl-α-D-galactosaminide is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 4-nitrophenyl-N-acetyl-α-D-galactosaminide in ethanol is approximately 1 mg/ml and approximately 30 mg/ml in DMSO and DMF.

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 4-nitrophenyl-N-acetyl-α-D-galactosaminide can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 4-nitrophenyl-N-acetyl-α-D-galactosaminide in PBS (pH 7.2) is approximately 0.1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

N-acetyl-D-galactosaminidase catalyzes the cleavage of N-acetylglucosamine (GlcNAc), the monomeric unit of the polymer chitin. 4-Nitrophenyl-N-acetyl-α-D-galactosaminide can be used as a chromogenic substrate for N-acetyl-D-galactosaminidase, generating a yellow solution upon cleavage.[1-3]

References

1. Jin, Y.L., Jo, Y.Y., Kim, K.Y., *et al.* Purification and characterization of β-*N*-acetylhexosaminidase from rice seeds. *J. Biochem. Mol. Biol.* **35(3)**, 313-319 (2002).
2. De Boeck, H., Lis, H., van Tilbeurgh, H., *et al.* Binding of simple carbohydrates and some of their chromophoric derivatives to soybean agglutinin as followed by titrimetric procedures and stopped flow kinetics. *J. Biol. Chem.* **259(11)**, 7067-7074 (2014).
3. Shibata, H., and Yagi, T. Rate assay of *N*-acetyl-*β*-D-hexosaminidase with 4-nitrophenyl *N*-acetyl-*β*-D-glucosaminide as an artificial substrate. *Clin. Chim. Acta* **251(1)**, 53-64 (1996).

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