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SZABO-SCANDIC Handels GmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

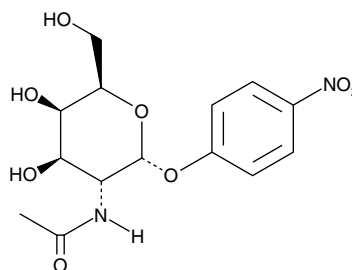
Product Information



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: C₁₄H₁₈N₂O₈
FW: 342.3
Purity: \geq 98%
Stability: \geq 2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max} : 219, 295 nm



Laboratory Procedures

For long term storage, we suggest that 4-nitrophenyl-N-acetyl- α -D-galactosaminide (*p*NP-GlcNAc) be stored as supplied at -20°C. It should be stable for at least two years.

*p*NP-GlcNAc is supplied as a crystalline solid. A stock solution may be made by dissolving the *p*NP-GlcNAc in the solvent of choice. *p*NP-GlcNAc is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of *p*NP-GlcNAc 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 *p*NP-GlcNAc can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of *p*NP-GlcNAc in PBS, pH 7.2, is approximately 0.1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

N-acetyl-D-galactosaminidase catalyzes the cleavage of N-acetylglucosamine (GlcNAc), the monomeric unit of the polymer chitin. *p*NP-GlcNAc 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).

Related Products

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Cayman Chemical

Mailing address
1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone
(800) 364-9897
(734) 971-3335

Fax
(734) 971-3640

E-Mail
custserv@caymanchem.com

Web
www.caymanchem.com

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