

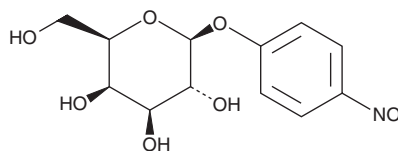
PRODUCT INFORMATION



p-Nitrophenyl β-D-Galactopyranoside

Item No. 36160

CAS Registry No.: 3150-24-1
Formal Name: 4-nitrophenyl β-D-galactopyranoside
Synonyms: *p*-Nitrophenyl β-D-galactoside, *p*NPGal, NSC 89287, PNPG
MF: C₁₂H₁₅NO₈
FW: 301.3
Purity: ≥98%
UV/Vis.: λ_{max}: 220, 303 nm
Supplied as: A 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

p-Nitrophenyl β-D-galactopyranoside is supplied as a solid. A stock solution may be made by dissolving the *p*-nitrophenyl β-D-galactopyranoside in the solvent of choice, which should be purged with an inert gas. *p*-Nitrophenyl β-D-galactopyranoside is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of *p*-nitrophenyl β-D-galactopyranoside in DMSO is approximately 10 mg/ml and approximately 11 mg/ml in DMF. *p*-Nitrophenyl β-D-galactopyranoside is slightly soluble in ethanol.

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*-nitrophenyl β-D-galactopyranoside can be prepared by directly dissolving the solid in aqueous buffers. The solubility of *p*-nitrophenyl β-D-galactopyranoside in PBS (pH 7.2) is approximately 0.09 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

p-Nitrophenyl β-D-galactopyranoside is a chromogenic substrate for β-D-galactosidase.¹ Upon enzymatic cleavage by β-D-galactosidase, *p*-nitrophenol is released, which can be quantified by colorimetric detection at 420 nm as a measure of β-D-galactosidase activity. *p*-Nitrophenyl β-D-galactopyranoside has been used to determine the substrate specificity of *T. maritima* MSB8 β-galactosidase.²

References

1. Darwish, I.A., Mahmoud, A.M., and Al-Majed, A.-R.A. Generic simple enzyme immunoassay approach to avert small molecule immobilization problems on solid phases: Application to the determination of tobramycin in serum. *Talanta* **72**(4), 1322-1328 (2007).
2. Li, L., Zhang, M., Jiang, Z., *et al.* Characterisation of a thermostable family 42 β-galactosidase from *Thermotoga maritima*. *Food Chem.* **112**, 844-850 (2009).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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