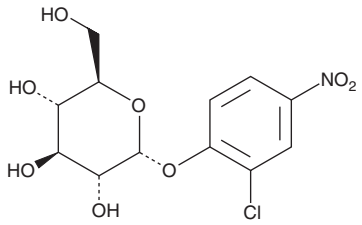
PRODUCT INFORMATION

2-Chloro-4-nitrophenyl-α-D-glucopyranoside

Item No. 16527

CAS Registry No.: 119047-14-2
Formal Name: 2-chloro-4-nitrophenyl-α-D-glucopyranoside
Synonym: CNP-α-D-glucopyranoside
MF: $C_{12}H_{14}ClNO_8$
FW: 335.7
Purity: ≥98%
UV/Vis.: λ_{max}: 209, 229, 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

2-Chloro-4-nitrophenyl-α-D-glucopyranoside is supplied as a crystalline solid. A stock solution may be made by dissolving the 2-chloro-4-nitrophenyl-α-D-glucopyranoside in the solvent of choice, which should be purged with an inert gas. 2-Chloro-4-nitrophenyl-α-D-glucopyranoside is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 2-chloro-4-nitrophenyl-α-D-glucopyranoside in ethanol and DMSO is approximately 10 mg/ml and approximately 25 mg/ml in 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 2-chloro-4-nitrophenyl-α-D-glucopyranoside can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 2-chloro-4-nitrophenyl-α-D-glucopyranoside in PBS (pH 7.2) is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Carbohydrates conjugated with 2-chloro-4-nitrophenyl (CNP) serve as chromogenic substrates in assays for enzymes that release CNP from the conjugated carbohydrate.[1,2] For example, CNP-β-D-maltoheptaoside and CNP-α-maltotrioside are chromogenic substrates for α-amylase.[3,4] 2-Chloro-4-nitrophenyl-α-D-glucopyranoside is a conjugate of CNP and α-D-glucose. The related conjugate between CNP and β-D-glucose, 2-chloro-4-nitrophenyl β-D-glucopyranoside, is used as a chromogenic substrate for glycosyltransferases.[5,6] This product is a chromogenic substrate for enzymes that target the linkage between CNP and α-D-glucose.

References

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