Product Information

2-Chloro-4-nitrophenyl-\(\alpha\)-D-glucopyranoside

Item No. 16527

CAS Registry No.: 119047-14-2
Formal Name: 2-chloro-4-nitrophenyl-\(\alpha\)-D-glucopyranoside
Synonym: CNP-\(\alpha\)-D-glucopyranoside
MF: C\(_{12}\)H\(_{14}\)ClNO\(_8\)
FW: 335.7
Purity: \(\geq 98\%\)
Stability: \(\geq 2\) years at \(-20^\circ\)C
Purity: \(\geq 98\%\)

UV/Vis:
\(\lambda_{\text{max}}\): 209, 229, 295 nm

Laboratory Procedures

For long term storage, we suggest that 2-chloro-4-nitrophenyl-\(\alpha\)-D-glucopyranoside be stored as supplied at \(-20^\circ\)C. It should be stable for at least two years.

2-Chloro-4-nitrophenyl-\(\alpha\)-D-glucopyranoside is supplied as a crystalline solid. A stock solution may be made by dissolving the 2-chloro-4-nitrophenyl-\(\alpha\)-D-glucopyranoside in the solvent of choice. 2-Chloro-4-nitrophenyl-\(\alpha\)-D-glucopyranoside is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of 2-chloro-4-nitrophenyl-\(\alpha\)-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 physiologic effects at low concentrations. Organic solvent-free aqueous solutions of 2-chloro-4-nitrophenyl-\(\alpha\)-D-glucopyranoside can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 2-chloro-4-nitrophenyl-\(\alpha\)-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.

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-\(\beta\)-D-maltoheptaoside and CNP-\(\alpha\)-maltotrioside are chromogenic substrates for \(\alpha\)-amylase.\(^3\),\(^4\) 2-Chloro-4-nitrophenyl-\(\alpha\)-D-glucopyranoside is a conjugate of CNP and \(\alpha\)-D-glucose. The related conjugate between CNP and \(\beta\)-D-glucose, 2-chloro-4-nitrophenyl-\(\beta\)-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 \(\alpha\)-D-glucose.

References

Related Products
For a list of related products please visit: www.caymanchem.com/catalog/16527

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes no warranty or guarantees of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications as the time of delivery. Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's exclusive remedy and Cayman's sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman's option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.