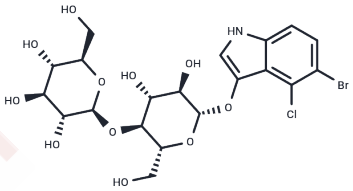
Data Sheet (Cat.No.T60017)

TargetMol

5-Bromo-4-chloro-3-indoxyl-beta-D-cellobioside

Chemical Properties



CAS No. : 177966-52-8

Formula: C20H25BrClNO11

Molecular Weight: 570.77

Storage: Store at low temperature,Keep away from direct sunlight
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	5-Bromo-4-chloro-3-indoxyl-beta-D-cellobioside is a chromogenic compound used to detect cellobiohydrolases.
Targets(IC50)	Others
In vitro	I. Cellulase activity detection 1. Prepare substrate solution: Dissolve 5-Bromo-4-chloro-3-indoxyl-beta-D-cellobioside in an appropriate buffer solution, usually at a concentration between 0.5-1 mM. Commonly used buffer solutions include citric acid-phosphate buffer (pH 5.0-7.0) or Tris-HCl buffer (pH 7.5-8.5). 2. Add sample: Add the sample to be tested (e.g., bacterial culture or extract containing cellulase) to the substrate solution. The sample may contain related enzymes such as β-glucosidase. 3. Reaction conditions: Incubate the reaction system at a suitable temperature (e.g., 37° C) for a reaction time of 30 minutes to 2 hours. The enzyme-catalyzed reaction produces a blue product. 4. Stop the reaction: Stop the reaction by adding an appropriate chemical reagent (e.g., an acidic buffer) to prevent further activity of the enzyme. 5. Observe and analyze: Observe the blue product in the sample by naked eye or microscope. The appearance of blue products indicates the activity of cellulase. The activity of the enzyme can be evaluated by quantitatively analyzing the intensity of blue staining. 2. Fiber biotransformation research 1. Cultivation of microorganisms: Cultivate fiber-degrading microorganisms, such as cellulose-degrading fungi or bacteria, in appropriate culture media. 2. Addition of substrate: Add 5-Bromo-4-chloro-3-indoxyl-beta-D-cellobioside solution. 3. Reaction observation: Monitor the progress of the degradation reaction by color change. The color of the reaction product can help determine whether the microorganism has the ability to degrade cellulose. 3. High-throughput screening 1. Sample preparation: Process a large number of microbial samples (such as different strains or genetically engineered strains) in batches. 2. Substrate reaction: Mix 5-Bromo-4-chloro-3-indoxyl-beta-D-cellobioside solution

In vitro	with the sample. 3. Color detection: Use automated equipment to detect the blue reaction in different samples and quickly screen out efficient cellulose-degrading strains or enzymes. IV. Enzyme activity determination 1. Prepare substrate solution: dissolve 5-Bromo-4-chloro-3-indoxyl-beta-D-cellobioside in buffer. 2. Add test enzyme solution: add solution containing test cellulose hydrolase or other related enzymes. 3. Observe reaction results: evaluate enzyme activity based on color change. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	DMSO: 22.5 mg/mL (39.42 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.752 mL	8.7601 mL	17.5202 mL
5 mM	0.3504 mL	1.752 mL	3.504 mL
10 mM	0.1752 mL	0.876 mL	1.752 mL
50 mM	0.035 mL	0.1752 mL	0.3504 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Restaino L,et al. A chromogenic plating medium for the isolation and identification of Enterobacter sakazakii from foods, food ingredients, and environmental sources. J Food Prot. 2006 Feb;69(2):315-22.