

X-Gal

5-Bromo-4-Chloro-3-Indolyl- β -D-Galactopyranoside

Store at -20°C .

Catalog #:	AM9944
Amount:	1 g
Product Description:	X-Gal (5-Bromo-4-chloro-3-indolyl- β -D-galactoside) is a chromogenic substrate for β -galactosidase that turns blue upon hydrolysis. It is commonly used for blue/white screening of recombinants when using vectors that support alpha complementation of β -galactosidase.
Appearance:	White crystalline powder
Molecular Weight:	408.6
Molecular Formula:	$\text{C}_{14}\text{H}_{16}\text{BrClNO}_6$
Chemical Analysis:	Purity (HPLC) >99.0% Solubility 2% in DMF (N-N' dimethyl formamide) Structure confirmed using $^1\text{H-NMR}$
Caution:	Avoid contact with eyes, skin, and clothing. Wash thoroughly with water after handling.
Storage Conditions:	Store at -20°C , with desiccation. Warm to room temperature before opening.

USER INFORMATION

General Information:	Ambion [®] X-Gal is normally used as a 20–50 mg/mL stock solution in N, N'-dimethyl formamide. Prepare a stock solution of 20–50 mg/mL. Wrap the container in aluminum foil to prevent damage by light and store at -20°C . The solvent will degrade many plastics, so glass containers are recommended.
Applications:	X-Gal should be added to agar (at 50°C) prior to pouring plates. Plates or overlays typically contain 40 $\mu\text{g}/\text{mL}$ of X-Gal. An alternative method for preparing plates containing X-Gal is to spread 50 μL of a 20 mg/mL stock solution onto a 100 mm plate and allow it to dry for 15–30 min prior to use. After an overnight incubation, blue colonies should be readily visible; refrigerating the plates for 2–5 hr may enhance the intensity of the blue color.

QUALITY CONTROL

Functional Testing:	X-Gal is assayed for efficiency of color development of lac ⁺ colonies and the absence of undesirable inhibitors of cell growth. A range of concentrations (0 $\mu\text{g}/\text{mL}$ to 240 $\mu\text{g}/\text{mL}$; 40 $\mu\text{g}/\text{mL}$ recommended) is tested by plating a constant number of <i>E. coli</i> cells harboring pUC19 grown on LB/carbenicillin plates. The plates are evaluated for color intensity, size and number of colonies after an overnight incubation at 37°C .
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OTHER INFORMATION

Material Safety Data Sheets:	Material Safety Data Sheets (MSDSs) can be printed or downloaded from product-specific links on our website at the following address: www.ambion.com/techlib/msds . Alternatively, e-mail your request to MSDS_Inquiry_CCRM@appliedbiosystems.com . Specify the catalog or part number(s) of the product(s), and we will e-mail the associated MSDSs unless you specify a preference for fax delivery. For customers without access to the internet or fax, our technical service department can fulfill MSDS requests placed by telephone or postal mail. (Requests for postal delivery require 1–2 weeks for processing.)
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