X-Gal Solution (40 mg/mL), Sterile (1,000X)

CAT No. APL-1084

DESCRIPTION

5-Bromo-4-chloro-3-indolyl β-D-galactopyranoside is most commonly known as X-Gal. X-Gal is a histochemical substrate for β-galactosidase which cleaves X-Gal to yield an insoluble blue precipitate.

CONTENT

	APL-1084
X-Gal Solution (40 mg/mL), Sterile (1,000X)	10 mL

COMPOSITION

Product Name	X-Gal Solution (40 mg/mL), Sterile (1,000X)
X-Gal	0.0979 M
DMSO	10 mL

STORAGE

This product should be stored at -20°C, and avoid repeated freeze-thaw cycles.

FEATURES

Two options are available:

• Adding for fast and easy application to pre-poured plates.

• Molten agar prior to pouring.

APPLICATION

X-Gal is a mainstay in molecular biology cloning applications in which it is used to detect the activity of β-galactosidase. X-Gal is used to detect the insertion of foreign DNA into the *lacZ* region of a plasmid DNA. Insertion of DNA into the *lacZ* region results in the loss of β-galactosidase activity. Bacteria cells that retain active β-galactosidase will result in characteristic blue colonies. Successful disruption of the *lacZα* gene disrupts the α-complementation of the β-galactosidase gene and the precipitate does not form, resulting in white colonies. X-Gal is commonly used in conjunction with IPTG for blue-white screening.

PROTOCOL

Adding to pre-poured plates

1. Apply 20 µL of X-Gal Solution (40 mg/mL), Sterile (1,000X), to each pre-poured agar plate.
2. Immediately spread X-Gal Solution (40 mg/mL), Sterile (1,000X) over plate surface with a sterile spreader until completely absorbed.

3. Allow the plate surface to dry under sterile conditions (such as a laminar flow hood) for approximately 30 minutes if solution is applied to dry plates, or up to several hours if the agar plate was freshly poured. Once the surface has dried the plate is ready to use for blue/white selection of transformed cells.
4. Prepared plates may be stored protected from light at 4°C.

Batch preparation with molten agar

1. Cool agar to approximately 50°C.
2. Add 100 µL X-Gal Solution (40 mg/mL), Sterile (1,000X), to every 100 mL of agar. Mix well.
3. Pour agar into sterile petrie dishes (25 mL per 100 mm dish). Allow to solidify.
4. Plates may be used for blue/white selection immediately or stored protected from light at 4°C.

NOTE: Add IPTG depend on your experiment necessary

PRODUCT USE LIMITATION

Research use only.