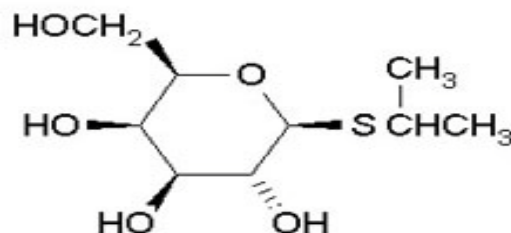


Product Information Sheet

I373

Isopropyl-β-D-thiogalactopyranoside



Synonym: IPTG
CAS: 367-93-1
Formula: C₉H₁₈O₅S
Molecular Wt: 238.3

Properties

Form: Powder
Appearance: White Powder
Application: Molecular Biology
Solubility: Water @ 250 mg/mL
Typical Working
Concentration:
Storage Temp: 2 to 6°C
Storage Temp of
Stock Solution: -20 to 0°C
Other Notes: Plant Tissue Culture Tested

Application Notes

Isopropyl-β-D-thiogalactopyranoside is often referred as IPTG. It acts as a substrate for β-galactosidase by inducing the expression of *lac* operon in *Escherichia coli*. IPTG binds to the repressor and modifies its form which then prevents the repression of *lac* gene coding by β-galactosidase. Additionally, IPTG is also a substrate and inducer for thiogalactoside transacetylase and penicillinase activity in bacteria, respectively.

IPTG is often used in cloning procedures where induction of β-galactosidase activity is required. It is also widely used along side of X-Gal (Prod. No. X874) for blue-white colony screening of recombinant bacteria.

Blue/White Colony Screening:

1. Dissolve X-Gal (Prod. No. X874) in DMF (dimethylformamide) or DMSO (dimethyl sulfoxide) (Prod. No. D241) to make a 20 mg/ml solution. Wrap in aluminum foil to

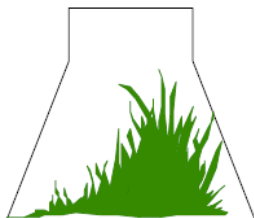
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Product Information Sheet

- protect from light.
2. Prepare IPTG (Prod. No. I373) by dissolving 2 g in 8 ml of H₂O, then adjust level to 10 ml and filter sterilize using a 0.22-micron filter. Dispense into 1mL aliquots.
 3. Store both solutions at -20°C. Avoid freeze/thaw cycles as this can cause false results.
 4. For use, spread 40 µL of stock X-Gal and 4 µL of IPTG onto surface of pre-made LB (prepared using LB Agar, Prod. No. L465) plate.

Revised 4/2011