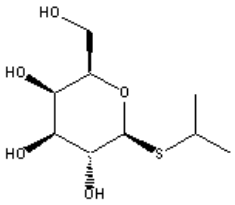
Catalog Number: 102101, 194029

Isopropyl-beta-D-thiogalactopyranoside

Structure:



Molecular Formula: $C_9H_{18}O_5S$

Molecular Weight: 238.3

CAS # : 367-93-1

Synonyms: I-Propyl-β-D-thiogalactopyranoside; IPTG; Isopropyl-β-D-thiogalactoside

Physical Description: White to off white crystalline powder

Solubility: Soluble in methanol and water (50 mg/ml - clear, colorless solution). Solutions can be sterile filtered using a 0.2 um filter.

Description: A β-Galactosidase inducer by inducing the *lac* operon. An analog of galactose which is not cleaved by *E. coli* beta-galactosidase. beta-Galactosidase positive colonies can be detected by X-GAL (5-Bromo-4- chloro-3-indolyl- beta-D-galactopyranoside, MP catalog number 150001). IPTG functions by binding to the *lacI* repressor and altering its conformation, which prevents the repression of the beta-galactosidase coding gene *lacZ*. The final concentration typically used in indicator plates is 0.2 mM.

Availability:

Catalog Number	Description	Size
102101	Isopropyl-beta-D-thiogalactopyranoside	25 mg 100 mg 250 mg 500 mg 1 g 5 g
194029	Isopropyl-beta-D-thiogalactopyranoside, molecular biology reagent	100 mg 250 mg 500 mg 1 g 5 g 10 g

Also Available:

Catalog Number	*Description*	*Size*
150001	5-Bromo-4- chloro-3-indolyl- beta-D-galactopyranoside (X-Gal)	5 mg 10 mg 50 mg 100 mg 250 mg 500 mg 1 g

References:

1. Aryal, P., et al., "Development of new genotoxicity test system with *Salmonella typhimurium* OY1001/1A2 expressing human CYP1A2 and NADPH-P450 reductase." *Mutation Research/Genetic Toxicology and Environmental Mutagenesis*, **v. 442: 2**, 113-120 (1999).
2. Cho, S., et al., *Biochem. Biophys. Res. Commun.*, **v. 128**, 1268 (1985).
3. Gilbert, W. and Muller-Hill, B., *The Lactose Operon*, p. 97, J. Beckwith and D. Zipser (eds.), Cold Spring Harbor: New York (1970).

4. Lough, J., Jackson, M., Rebecca, M. and Moyer, R., "Bisulfite-induced cytosine deamination rates in *E. coli* SSB:DNA complexes." *Mutation Research/Fundamental and Molecular Mechanisms of Mutagenesis*, **v. 478:1-2**, 191-197 (2001).
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6. Sambrook, J., et al., *Molecular Cloning: A Laboratory Manual, 2nd Ed.*, p. 1.8-1.9, 1.86, Cold Spring Harbor: New York (1989).
7. Zubay, G. (ed.), "Regulation of gene expression in prokaryotes", in *Biochemistry*, chapter **29**, Macmillan Publishing Co., New York (1988).