

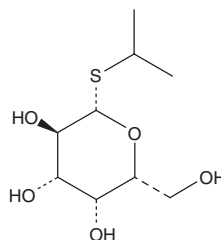
# PRODUCT INFORMATION



## IPTG (dioxane free)

Item No. 15300

**CAS Registry No.:** 367-93-1  
**Formal Name:** 1-methylethyl 1-thio-β-D-galactopyranoside  
**Synonym:** Isopropyl β-thiogalactoside  
**MF:** C<sub>9</sub>H<sub>18</sub>O<sub>5</sub>S  
**FW:** 238.3  
**Purity:** ≥98%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

IPTG (dioxane free) is supplied as a crystalline solid. A stock solution may be made by dissolving the IPTG in the solvent of choice, which should be purged with an inert gas. IPTG is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of IPTG in ethanol and DMSO is approximately 20 mg/ml and approximately 30 mg/ml in DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of IPTG can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of IPTG in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

IPTG is a molecular mimic of allolactose, a lactose metabolite that triggers transcription of the *lac* operon.<sup>1</sup> It is used in the concentration range of 100 μM - 1.5 mM to induce protein expression where the gene is under the control of the *lac* operator and is suitable for use with X-gal or blue-gal to detect *lac* gene activity in cloning procedures.<sup>2</sup>

### References

1. Kaster, K.R., Burgett, S.G., Rao, R.N., *et al.* Analysis of a bacterial hygromycin B resistance gene by transcriptional and translational fusions and by DNA sequencing. *Nucleic Acids Res.* **11(19)**, 6895-6911 (1983).
2. Sambrook, J. and Russell, D.W. *Molecular cloning: A laboratory manual*. 3, Cold Spring Harbor Laboratory Press, Cold Spring Harbor (2001).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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