

IPTG (Dioxane-Free)

Shipping: On Dry/Blue Ice Catalog numbers

Batch No.: See vial BIO-37036: 5 g

Store at -20°C



Storage and stability:

The IPTG is shipped on dry/blue ice. On arrival store at -20 °C for optimum stability. Repeated freeze/thaw cycles should be avoided.

Expiry

When stored under the recommended conditions and handled correctly, full activity of the kit is retained until the expiry date on the outer box label.

Safety precautions: Harmful if swallowed. Irritating to eyes and skin. Please refer to the material safety data sheet for further information and safety handling practice.

Xi: IRRITANT

Quality control specifications:

IPTG is extensively tested for activity and absence of contamination prior to release.

Notes:

For research or further manufacturing use only.

Description

Isopropyl-β-D-thiogalactopyranoside (IPTG) is a chemical analogue of galactose, which cannot be hydrolysed by the enzyme β-Galactosidase. Hence, it induces the *E. coli lac* operon activity by binding and inhibiting the lac repressor without being degraded. Genes controlled by the *lac* or *tac* promoter/operator sequences are expressed to high levels in the presence of IPTG.

It is recommended for blue/white screening by *lacZ* α-complementation with appropriate vectors and host strains, and for protein expression with BL21 (DE3) cells and other lac promoter-derived expression systems.

Features

- Induces *E. coli lac* operon activity
- >99.6% purity by HPLC
- Available as powder and stabilized stock solution

Applications

- Blue/white color screening
- Induction of *lac* operon for protein expression
- Genes controlled by the *lac* or *tac* promoter/operator sequences are expressed to high levels in the presence of IPTG

Characteristics

Empirical formula	C ₉ H ₁₈ O ₅ S
Molecular weight	238.3
Form	1M Solution in water
Melting point	112-113 °C
Purity	≥99% by HPLC

Associated Products

Product Name	Pack Size	Catalog No.
X-GAL Powder	1 g	BIO-37035
SureClean Plus	5 mL	BIO-37047

Recommendations for use

- Dissolve to desired concentration in Water, 18.2MΩ (DNase/RNase-free).
- Filter sterilize through a 0.22 micron disposable filter.
- Store solution at -20 °C.
- For blue/white screening, 0.1mM final IPTG concentration in LB (Luria Broth) media is recommended

Product Citations:

1. Ali, F.R., *et al. Meth. Mol. Biol.* **628**, 195-214 (2010).
2. Prabhakar, V., *et al. FEBS Lett.* **583(6)**, 983-991 (2009).
3. Chan, C-H., *et al. Conserv. Gen.* **9(4)**, 1067-1070 (2008).
4. Hamblin, K., *et al. Mol. Microbiol.* **68(6)**, 1395-1405 (2008).
5. Maruta, F., *et al. J. Drug Targeting* **15(4)**, 311-319 (2007).
6. Ross, P.J., *et al. Infect. Immun.* **72(3)**, 1568-1579 (2004).
7. Meng, G. & Fütterer, K. *Nat. Struct. Biol.* **10**, 935-941 (2003).

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