IPTG

Cat. No.: HY-15921

CAS No.: 367-93-1

Molecular Formula: $C_9H_{18}O_5S$

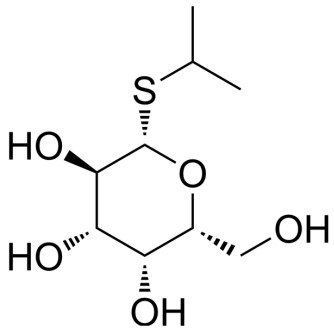
Molecular Weight: 238.3

Target: Biochemical Assay Reagents

Pathway: Others

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

H_2O : 100 mg/mL (419.64 mM; Need ultrasonic)

DMSO : ≥ 60 mg/mL (251.78 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	4.1964 mL	20.9820 mL	41.9639 mL
5 mM	0.8393 mL	4.1964 mL	8.3928 mL
10 mM	0.4196 mL	2.0982 mL	4.1964 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (419.64 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (8.73 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (8.73 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (8.73 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

IPTG is a molecular mimic of allolactose, a lactose metabolite that triggers transcription of the lac operon, and it is therefore used to induce protein expression where the gene is under the control of the lac operator.

In Vitro	IPTG uptake by E. coli can be independent of the action of lactose permease, since other transport pathways are also involved. At low concentration, IPTG enters cells through lactose permease, but at high concentrations (typically used for protein induction), IPTG can enter the cells independently of lactose permease[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Acta Pharm Sin B. 2022.
- Sci Adv. 2023 Feb 17;9(7):eade4770.
- Oncogene. 2023 Jun 13.
- Int J Mol Sci. 2018 May 7;19(5). pii: E1393.
- AMB Express. 2023 Apr 29;13(1):40.

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REFERENCES

[1]. Isopropyl β-D-1-thiogalactopyranoside

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