

IPTG (50mg/mL)

Cat #: A-CSH438

Size: 5mL

Storage: -20°C (12 months)

Product Description

Isopropyl β -D-1-thiogalactopyranoside, abbreviated as IPTG, has a molecular formula of $C_9H_{18}O_5$, a molecular weight of 238.30, and a CAS number of 367-93-1. IPTG is a highly effective inducer that is not easily metabolized by bacteria and is very stable. Based on this characteristic, when transforming lacZ gene-carrying vector DNA into lacZ-deficient cells as hosts, or when transfecting vector DNA of M13 phage, if X-gal and IPTG are added to the agar plate medium, the recombinant genes can be identified by the presence or absence of blue/white colonies (or plaques) due to the α -complementation of β -galactosidase. Additionally, it can be used as an inducer for the expression of expression vectors with promoters such as lac or tac.

The IPTG solution (50mg/ml) is sterile-filtered and is typically used at a working concentration of 1mM. It is mainly used to induce the expression of exogenous genes and in prokaryotic expression systems to increase expression levels, stabilize products, and facilitate identification and purification. IPTG is often used in combination with X-Gal, with a working concentration of X-Gal generally ranging from 5 to 10 μ g/ml.

Usage

1. In agar medium, add Amp, IPTG, and X-Gal, cool and prepare agar plates, transform, and culture.
2. Based on the appearance of blue-white colonies, easily select the recombinant genes (white colonies indicate genes with inserted DNA fragments).

Notes

1. Minimize repeated freeze-thaw cycles.

2. Pay attention to aseptic operation to avoid bacterial contamination.

Disclaimer

The reagent is only used in the field of scientific research, not suitable for clinical diagnosis or other purposes.