

**Datasheet for IPTG-1000****IPTG****Overview**

|                      |                                                                                                         |
|----------------------|---------------------------------------------------------------------------------------------------------|
| <b>Description:</b>  | IPTG (Isopropyl- $\beta$ -D-thiogalactopyranosid) Inducer for Beta-Galactosidase Expression - IPTG-1000 |
| <b>Item No.:</b>     | IPTG-1000                                                                                               |
| <b>Size:</b>         | 1 g                                                                                                     |
| <b>Applications:</b> | Biochemical Assay                                                                                       |

**Product Details**

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Background:</b> | IPTG (isopropyl beta-D-thiogalactoside) Inducer for Beta-Galactosidase Expression acts as a molecular mimic of a lactose metabolite. The presence of IPTG triggers the activation of the lac operon for downstream gene transcription due to its binding the lac repressor. Due to the presence of a sulfur atom in IPTG, the cells cannot degrade the inducer and therefore its concentration remains constant. IPTG (isopropyl beta-D-thiogalactoside) Inducer for Beta-Galactosidase Expression is ideal for investigators in Immunology, Cell Biology, and Microbiology research. |
| <b>Synonyms:</b>   | Isopropyl $\beta$ -D-1-thiogalactopyranoside, IPTG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

**Target Details**

|                            |                            |
|----------------------------|----------------------------|
| <b>Purity/Specificity:</b> | IPTG is >99.0% (enzymatic) |
|----------------------------|----------------------------|

**Application Details**

|                                |                                                                                                                                                                                                                                            |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Suggested Applications:</b> | Biochemical Assay (Based on references)                                                                                                                                                                                                    |
| <b>Application Note:</b>       | IPTG (isopropyl beta-D-thiogalactoside) Inducer for Beta-Galactosidase Expression is utilized in cloning experiments to determine positive incorporation of a construct of interest as well as in inducing recombinant protein expression. |
| <b>Assay Dilutions:</b>        | All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.                                                                                                                                            |
| <b>IHC:</b>                    | 1X                                                                                                                                                                                                                                         |

|               |                |
|---------------|----------------|
| <b>WB:</b>    | 1X             |
| <b>Other:</b> | DOE: 31MAY2028 |

## Formulation

|                        |       |
|------------------------|-------|
| <b>Physical State:</b> | Solid |
| <b>Concentration:</b>  | 1 X   |

## Shipping & Handling

|                            |                                                                                                                                          |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Shipping Condition:</b> | Dry Ice                                                                                                                                  |
| <b>Storage Condition:</b>  | Store container at -20° C prior to opening. Protect from moisture and light. No special shipping conditions or precautions are required. |
| <b>Expiration:</b>         | Expiration date is one (1) year from date of receipt.                                                                                    |

## Images



### Bottle

IPTG (Isopropyl- $\beta$ -D-thiogalactopyranosid) Inducer for Beta-Galactosidase Expression

## References

- Gurtler JB et al. Inactivation of Escherichia coli O157:H7 in Dairy Manure Compost with Alkaline Walnut Hull Biochar. *J Food Prot.* (2025)
- Gurtler JB et al. Minimum Concentrations of Slow Pyrolysis Paper and Walnut Hull Cyclone Biochars Needed to Inactivate Escherichia coli O157:H7 in Soil. *J Food Prot.* (2024)
- Gurtler JB et al. Inactivation of Desiccation-Resistant Salmonella on Apple Slices Following Treatment with  $\epsilon$ -Polylysine, Sodium Bisulfate, or Peracetic Acid and Subsequent Dehydration. *J Food Prot.* (2024)

## Disclaimer

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