

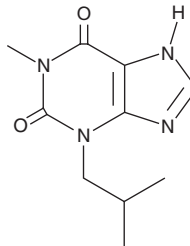
PRODUCT INFORMATION



IBMX

Item No. 13347

CAS Registry No.: 28822-58-4
Formal Name: 3,9-dihydro-1-methyl-3-(2-methylpropyl)-1H-purine-2,6-dione
Synonyms: Isobutylmethylxanthine, 1-Methyl-3-Isobutylxanthine, NSC 165960, SC-2964
MF: C₁₀H₁₄N₄O₂
FW: 222.3
Purity: ≥98%
UV/Vis.: λ_{max}: 272 nm
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

IBMX is supplied as a crystalline solid. A stock solution may be made by dissolving the IBMX in the solvent of choice, which should be purged with an inert gas. IBMX is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of IBMX in ethanol and DMF is approximately 5 mg/ml and approximately 10 mg/ml in DMSO.

Description

IBMX is a widely-used non-specific inhibitor of cyclic AMP and cyclic GMP phosphodiesterases (PDEs) (IC₅₀ = 19, 50, 18, 13, 32, 7, and 50 μM for PDE1, PDE2, PDE3, PDE4, PDE5, PDE7, and PDE11, respectively). PDE8A, PDE8B, and PDE9 are insensitive to IBMX.¹ By inhibiting PDEs, IBMX increases cellular cAMP and cGMP levels, activating cyclic-nucleotide-regulated protein kinases. Methylxanthines, including IBMX, caffeine, and theophylline, bind adenosine receptors, typically antagonizing the suppressive effects of natural agonists.²

References

1. Fawcett, L., Baxendale, R., Stacey, P., *et al.* Molecular cloning and characterization of a distinct human phosphodiesterase gene family: PDE11A. *Proc. Natl. Acad. Sci. USA* **97**(7), 3702-3707 (2000).
2. Snyder, S.H., Katims, J.J., Annau, Z., *et al.* Adenosine receptors and behavioral actions of methylxanthines. *Proc. Natl. Acad. Sci. USA* **78**(5), 3260-3264 (1981).

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.

WARRANTY AND LIMITATION OF REMEDY

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