

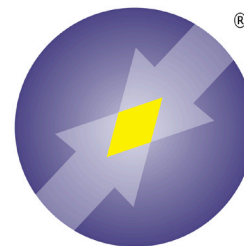
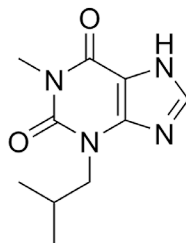
# IBMX

Catalog Number P019-100MG

Catalog Number P019-1G

## FEATURES

- Pan-specific inhibitor of PDEs
- Increases cellular cAMP and cGMP
- Activates protein kinases



ARBOR  
ASSAYS

## INTRODUCTION

IBMX is a widely-used non-specific inhibitor of cyclic AMP and cyclic GMP phosphodiesterases (PDEs) with IC50s from 7 to 50  $\mu$ M for PDE1-5, PDE7, and PDE11. PDE8A, PDE8B, and PDE9 are insensitive to IBMX. 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. Suppresses  $\alpha$ -adrenoceptor-mediated 5-HT release from neuroendocrine epithelial cells (IC50 = 1.3  $\mu$ M).

**FORM:** White solid

**MOLECULAR WEIGHT:** 222.24

**STORAGE:** Room temperature desiccated

**FORMULA:** C<sub>10</sub>H<sub>14</sub>N<sub>4</sub>O<sub>2</sub>

**CAS NUMBER:** 28822-58-4

**OTHER NAMES:** 3,7-Dihydro-1-methyl-3-(2-methylpropyl)-1H-purine-2,6-dione, NSC 165960, 1-Methyl-3-Isobutylxanthine, Isobutylmethylxanthine

**USES:** Soluble to 15 mg/mL in DMF or DMSO.

## REFERENCES:

Fawcett, L., et al. Molecular cloning and characterization of a distinct human phosphodiesterase gene family: PDE11A. Proc. Natl. Acad. Sci. 97:7, 3702-3707 (2000).

Snyder, S.H., et al. Adenosine receptors and behavioral actions of methylxanthines [caffeine/theophylline/N6-cyclohexyladenosine/N6-(phenylisopropyl)adenosine]. Proc. Natl. Acad. Sci. 78:5, 3260-3264 (1981).

Freitag A, Wessler I, Racké K., Phosphodiesterase inhibitors suppress alpha2-adrenoceptor-mediated 5-hydroxytryptamine release from tracheae of newborn rabbits. Eur. J. Pharmacol. 354:1, 67-71. (1998)

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