

Certificate of Analysis

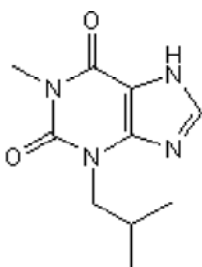
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Product Name: IBMX
CAS Number: 28822-58-4
IUPAC Name: 3,7-Dihydro-1-methyl-3-(2-methylpropyl)-1*H*-purine-2,6-dione

Catalog No.: 2845 **Batch No.:** 9
EC Number: 249-259-3

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₀H₁₄N₄O₂
Batch Molecular Weight: 222.24
Physical Appearance: Pale yellow solid
Solubility: DMSO to 75 mM
Storage: Store at +4°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.2% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Microanalysis:	Carbon Hydrogen Nitrogen		
Theoretical	54.04	6.35	25.21
Found	53.84	6.23	25.3

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

bio-techne.com
 info@bio-techne.com
 techsupport@bio-techne.com

North America
 Tel: (800) 343 7475

China
 info.cn@bio-techne.com
 Tel: +86 (21) 52380373

Europe Middle East Africa
 Tel: +44 (0)1235 529449

Rest of World
www.tocris.com/distributors
 Tel:+1 612 379 2956

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CAS Number: 28822-58-4

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IUPAC Name: 3,7-Dihydro-1-methyl-3-(2-methylpropyl)-1*H*-purine-2,6-dione

Description:

IBMX is a phosphodiesterase inhibitor (IC₅₀ values are 13, 18, 19, 32 and 50 μM for PDE4, PDE3, PDE1, PDE5 and PDE2 respectively). Suppresses α-adrenoceptor-mediated 5-HT release from neuroendocrine epithelial cells (IC₅₀ = 1.3 μM). Facilitates differentiation of neural progenitor cells in vitro.

Physical and Chemical Properties:

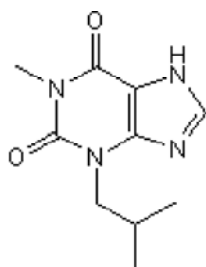
Batch Molecular Formula: C₁₀H₁₄N₄O₂

Batch Molecular Weight: 222.24

Physical Appearance: Pale yellow solid

Minimum Purity: ≥98%

Batch Molecular Structure:



References:

Lepski et al (2013) cAMP promotes the differentiation of neural progenitor cells in vitro via modulation of voltage-gated calcium channels. *Front.Cell Neurosci.* **7** 155. PMID: 24065885.

Freitag et al (1998) Phosphodiesterase inhibitors suppress α₂-adrenoceptor-mediated 5-hydroxytryptamine release from tracheae of newborn rabbits. *Eur.J.Pharmacol.* **354** 67. PMID: 9726632.

Storage: Store at +4°C

Solubility & Usage Info:

DMSO to 75 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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info@bio-techne.com

techsupport@bio-techne.com

North America

Tel: (800) 343 7475

China

info.cn@bio-techne.com

Tel: +86 (21) 52380373

Europe Middle East Africa

Tel: +44 (0)1235 529449

Rest of World

www.tocris.com/distributors

Tel:+1 612 379 2956