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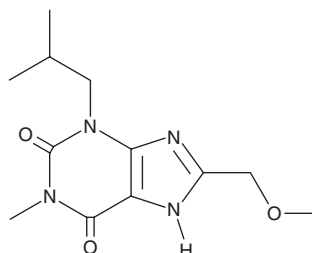
PRODUCT INFORMATION



8-Methoxymethyl-3-isobutyl-1-methylxanthine

Item No. 39151

CAS Registry No.: 78033-08-6
Formal Name: 3,9-dihydro-8-(methoxymethyl)-1-methyl-3-(2-methylpropyl)-1H-purine-2,6-dione
Synonyms: 8-MeOMeMIX, 8-methoxymethyl IBMX, 8-MM-IBMX, MMPX
MF: C₁₂H₁₈N₄O₃
FW: 266.3
Purity: ≥98%
Supplied as: A 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

8-Methoxymethyl-3-isobutyl-1-methylxanthine is supplied as a solid. A stock solution may be made by dissolving the 8-methoxymethyl-3-isobutyl-1-methylxanthine in the solvent of choice, which should be purged with an inert gas. 8-Methoxymethyl-3-isobutyl-1-methylxanthine is slightly soluble in chloroform and methanol.

Description

8-Methoxymethyl-3-isobutyl-1-methylxanthine is an inhibitor of phosphodiesterase 1 (PDE1; IC₅₀ = 5 μM) and a derivative of IBMX (Item No. 13347).¹ It is selective for PDE1 over PDE2, PDE3, and PDE4 but also inhibits PDE5 (IC₅₀s = 37, >400, >400, and 2 μM, respectively). 8-Methoxymethyl-3-isobutyl-1-methylxanthine (30 μM) enhances forskolin-induced increases in intracellular calcium levels in isolated rat olfactory receptor neurons.² It induces relaxation of isolated human saphenous vein segments in the absence of endothelium (EC₅₀ = 31 μM).³ *In vivo*, 8-methoxymethyl-3-isobutyl-1-methylxanthine (200 μg/kg) enhances decreases in pulmonary artery pressure and vascular resistance induced by iloprost (Item No. 18215) in a rabbit model of pulmonary hypertension induced by the TP receptor agonist U-46619 (Item No. 16450).⁴

References

1. O'Grady, S.M., Jiang, X., Maniak, P.J., *et al.* Cyclic AMP-dependent Cl secretion is regulated by multiple phosphodiesterase subtypes in human colonic epithelial cells. *J. Membr. Biol.* **185**(2), 137-144 (2002).
2. Otsuguro, K.-i., Gautam, S.H., Ito, S., *et al.* Characterization of forskolin-induced Ca²⁺ signals in rat olfactory receptor neurons. *J. Pharmacol. Sci.* **97**(4), 510-518 (2005).
3. Gonçalves, R.L., Lugnier, C., Keravis, T., *et al.* The flavonoid dioclein is a selective inhibitor of cyclic nucleotide phosphodiesterase type 1 (PDE1) and a cGMP-dependent protein kinase (PKG) vasorelaxant in human vascular tissue. *Eur. J. Pharmacol.* **620**(1-3), 78-83 (2009).
4. Schermuly, R.T., Inholte, C., Ghofrani, H.A., *et al.* Lung vasodilatory response to inhaled iloprost in experimental pulmonary hypertension: Amplification by different type phosphodiesterase inhibitors. *Respir. Res.* **6**(1), 76 (2005).

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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