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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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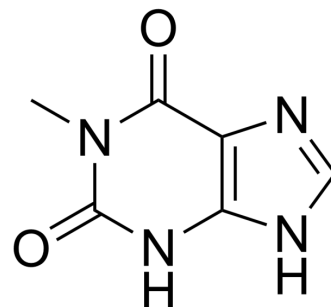
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1-Methylxanthine

Cat. No.:	HY-W008449		
CAS No.:	6136-37-4		
Molecular Formula:	C ₆ H ₆ N ₄ O ₂		
Molecular Weight:	166.14		
Target:	Endogenous Metabolite; Drug Metabolite		
Pathway:	Metabolic Enzyme/Protease		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro	DMSO : 10 mg/mL (60.19 mM; ultrasonic and warming and heat to 60°C)				
	Preparing Stock Solutions	Solvent Concentration Mass	1 mg	5 mg	10 mg
		1 mM	6.0190 mL	30.0951 mL	60.1902 mL
		5 mM	1.2038 mL	6.0190 mL	12.0380 mL
		10 mM	0.6019 mL	3.0095 mL	6.0190 mL
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 1 mg/mL (6.02 mM); Clear solution				
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 1 mg/mL (6.02 mM); Clear solution				

BIOLOGICAL ACTIVITY

Description	1-Methylxanthine, a caffeine derivative, is an essential human urinary metabolite of caffeine and theophylline (1,3-dimethylxanthine, TP) ^[1] . 1-Methylxanthine enhances the radiosensitivity of tumor cells ^[2] .
IC ₅₀ & Target	Human Endogenous Metabolite
In Vitro	1-Methylxanthine (1-MTX; 3 mM; for 30 min) increases the radiation-induced clonogenic and apoptotic cell (RKO human colorectal cancer cells carrying wild type protein 53 kDa (p53)) death ^[2] . 1-Methylxanthine (1MX) exhibits similar activities to other naturally occurring methylxanthines. Unlike caffeine, TP, and theobromine, 3-Methylxanthine (3MX) and 1-methylxanthine do not occur naturally at high levels in plants ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Algharrawi KH, et al. Direct conversion of theophylline to 3-methylxanthine by metabolically engineered E. coli. Microb Cell Fact. 2015 Dec 21;14:203.
- [2]. Youn H, et al. 1-Methylxanthine enhances the radiosensitivity of tumor cells. Int J Radiat Biol. 2009 Feb;85(2):167-74.
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Caution: Product has not been fully validated for medical applications. For research use only.

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