



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

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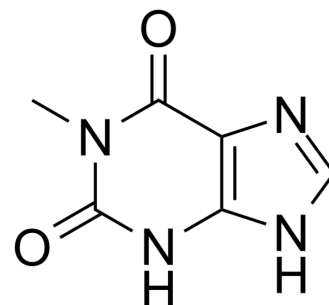
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## 1-Methylxanthine

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



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 10 mg/mL (60.19 mM; ultrasonic and warming and heat to 60°C)			
		<b>Solvent</b>	<b>Mass</b>	
		<b>Concentration</b>	<b>1 mg</b>	<b>5 mg</b>
	<b>Preparing Stock Solutions</b>		<b>10 mg</b>	
	<b>1 mM</b>	6.0190 mL	30.0951 mL	60.1902 mL
	<b>5 mM</b>	1.2038 mL	6.0190 mL	12.0380 mL
	<b>10 mM</b>	0.6019 mL	3.0095 mL	6.0190 mL
Please refer to the solubility information to select the appropriate solvent.				
<b>In Vivo</b>	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

<b>Description</b>	1-Methylxanthine, a caffeine derivative, is an essential human urinary metabolite of caffeine and theophylline (1,3-dimethylxanthine, TP) <sup>[1]</sup> . 1-Methylxanthine enhances the radiosensitivity of tumor cells <sup>[2]</sup> .
<b>IC<sub>50</sub> &amp; Target</b>	Human Endogenous Metabolite
<b>In Vitro</b>	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 <sup>[2]</sup> . 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 <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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## 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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