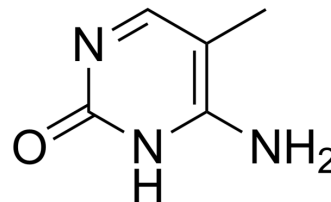


## 5-Methylcytosine

<b>Cat. No.:</b>	HY-W008091		
<b>CAS No.:</b>	554-01-8		
<b>Molecular Formula:</b>	C <sub>5</sub> H <sub>7</sub> N <sub>3</sub> O		
<b>Molecular Weight:</b>	125.13		
<b>Target:</b>	DNA/RNA Synthesis; Endogenous Metabolite		
<b>Pathway:</b>	Cell Cycle/DNA Damage; 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

#### In Vitro

H<sub>2</sub>O : 7.14 mg/mL (57.06 mM; Need ultrasonic)  
 DMSO : 5 mg/mL (39.96 mM; ultrasonic and warming and heat to 80°C)

Preparing Stock Solutions	Solvent		Mass		
	Concentration		1 mg	5 mg	10 mg
	1 mM		7.9917 mL	39.9584 mL	79.9169 mL
	5 mM		1.5983 mL	7.9917 mL	15.9834 mL
	10 mM		0.7992 mL	3.9958 mL	7.9917 mL

Please refer to the solubility information to select the appropriate solvent.

#### In Vivo

- Add each solvent one by one: PBS  
Solubility: 6.67 mg/mL (53.30 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 0.83 mg/mL (6.63 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 0.83 mg/mL (6.63 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 0.83 mg/mL (6.63 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

5-Methylcytosine is a well-characterized DNA modification, and is also predominantly in abundant non-coding RNAs in both prokaryotes and eukaryotes. 5-Methylcytosine in mRNA is a new epitranscriptome marker in Arabidopsis, and that regulation of this modification is an integral part of gene regulatory networks underlying plant development<sup>[1]</sup>.

---

IC<sub>50</sub> & Target

Microbial Metabolite

Human Endogenous Metabolite

## CUSTOMER VALIDATION

- J Hazard Mater. 15 May 2022, 128511.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

[1]. Cui X, et al. 5-Methylcytosine RNA Methylation in Arabidopsis Thaliana. Mol Plant. 2017 Nov 6;10(11):1387-1399.

---

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA