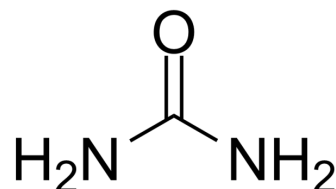


## Urea

<b>Cat. No.:</b>	HY-Y0271		
<b>CAS No.:</b>	57-13-6		
<b>Molecular Formula:</b>	CH <sub>4</sub> N <sub>2</sub> O		
<b>Molecular Weight:</b>	60.06		
<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	2 years
		-20°C	1 year



### SOLVENT & SOLUBILITY

#### In Vitro

H<sub>2</sub>O : 100 mg/mL (1665.00 mM; Need ultrasonic)  
 DMSO : 100 mg/mL (1665.00 mM; Need ultrasonic)

	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	16.6500 mL	83.2501 mL	166.5002 mL
	5 mM	3.3300 mL	16.6500 mL	33.3000 mL
	10 mM	1.6650 mL	8.3250 mL	16.6500 mL

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

#### In Vivo

- Add each solvent one by one: PBS  
Solubility: 100 mg/mL (1665.00 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.5 mg/mL (41.63 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.5 mg/mL (41.63 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.5 mg/mL (41.63 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Urea is a powerful protein denaturant via both direct and indirect mechanisms<sup>[1]</sup>. A potent emollient and keratolytic agent<sup>[2]</sup>. Used as a diuretic agent. Blood urea nitrogen (BUN) has been utilized to evaluate renal function<sup>[3]</sup>. Widely used in fertilizers as a source of nitrogen and is an important raw material for the chemical industry.

---

IC <sub>50</sub> & Target	Microbial Metabolite	Human Endogenous Metabolite
---------------------------	----------------------	-----------------------------

## CUSTOMER VALIDATION

- Autophagy. 2022 Nov 30.

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

## REFERENCES

- [1]. Bennion BJ, et al. The molecular basis for the chemical denaturation of proteins by urea. Proc Natl Acad Sci U S A. 2003 Apr 29;100(9):5142-7.
  - [2]. Pan M, et al. Urea: a comprehensive review of the clinical literature. Dermatol Online J. 2013 Nov 15;19(11):20392.
  - [3]. Wang H, et al. Urea. Subcell Biochem. 2014;73:7-29.
- 

**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