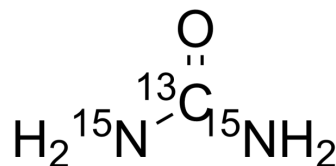


## Urea-<sup>13</sup>C,<sup>15</sup>N<sub>2</sub>

<b>Cat. No.:</b>	HY-Y0271S2		
<b>CAS No.:</b>	58069-83-3		
<b>Molecular Formula:</b>	<sup>13</sup> CH <sub>4</sub> <sup>15</sup> N <sub>2</sub> O		
<b>Molecular Weight:</b>	63.03		
<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

#### In Vitro

DMSO : 250 mg/mL (3966.37 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	15.8655 mL	79.3273 mL	158.6546 mL
	5 mM	3.1731 mL	15.8655 mL	31.7309 mL
	10 mM	1.5865 mL	7.9327 mL	15.8655 mL

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

### BIOLOGICAL ACTIVITY

#### Description

Urea-<sup>13</sup>C,<sup>15</sup>N<sub>2</sub> is the <sup>13</sup>C and <sup>15</sup>N labeled Urea[1]. Urea is a powerful protein denaturant via both direct and indirect mechanisms[1]. A potent emollient and keratolytic agent[2]. Used as a diuretic agent. Blood urea nitrogen (BUN) has been utilized to evaluate renal function[3]. Widely used in fertilizers as a source of nitrogen and is an important raw material for the chemical industry.

#### In Vitro

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs<sup>[1]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### REFERENCES

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019 Feb;53(2):211-216.

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[2]. 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.

[3]. Pan M, et al. Urea: a comprehensive review of the clinical literature. Dermatol Online J. 2013 Nov 15;19(11):20392. Wang H, et al. Urea. Subcell Biochem. 2014;73:7-29.

[4]. Wang H, et al. Urea. Subcell Biochem. 2014;73:7-29.

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

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