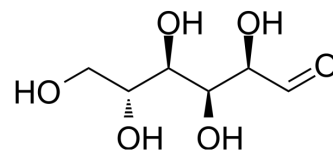


## D-Glucose

<b>Cat. No.:</b>	HY-B0389		
<b>CAS No.:</b>	50-99-7		
<b>Molecular Formula:</b>	C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>		
<b>Molecular Weight:</b>	180.16		
<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>	H <sub>2</sub> O : ≥ 50 mg/mL (277.53 mM) * "≥" means soluble, but saturation unknown.				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM	5.5506 mL	27.7531 mL	55.5062 mL
		5 mM	1.1101 mL	5.5506 mL	11.1012 mL
10 mM		0.5551 mL	2.7753 mL	5.5506 mL	
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	1. Add each solvent one by one: PBS Solubility: 100 mg/mL (555.06 mM); Clear solution; Need ultrasonic				

### BIOLOGICAL ACTIVITY

<b>Description</b>	D-Glucose is the naturally occurring form of glucose and the most abundant monosaccharide. D-Glucose is a critical components of the general metabolism, and serve as critical signaling molecules in relation to both cellular metabolic status and biotic or abiotic stress response <sup>[1][2][3]</sup> .	
<b>IC<sub>50</sub> &amp; Target</b>	Microbial Metabolite	Human Endogenous Metabolite
<b>In Vitro</b>	D-Glucose (25-150 mM, 20min) increases the release of 5-Hydroxytryptamine from human BON cells dose-dependently <sup>[3]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
<b>In Vivo</b>	D-Glucose (250, 500, 750 mg/kg, i.v., acute administration) protects rats' isletβcells from Alloxan induced diabetes <sup>[2]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

Animal Model:	Male rats (Charles River strain) with alloxan induced diabetes <sup>[2]</sup>
Dosage:	250, 500, 750 mg/kg
Administration:	Intravenous injection (i.v.)
Result:	Demonstrated slight to moderate degranulation of islet $\beta$ cells and only minimal or absent evidence of injury, while $\beta$ cell necrosis was noted in those receiving only alloxan.

## CUSTOMER VALIDATION

- ACS Nano. 2023 Sep 15.
- Nat Protoc. 2021 Jan;16(1):405-430.
- Autophagy. 2022 Nov 30.
- Cancer Lett. 2022 Sep 20;215918.
- Cell Commun Signal. 2022 Oct 27;20(1):168.

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## REFERENCES

- [1]. Jin Jiaojiao, et al. D-glucose, D-galactose, and D-lactose non-enzyme quantitative and qualitative analysis method based on Cu foam electrode. Food Chem. 2015 May 15;175:485-93.
- [2]. Rossini AA, et al. Beta cell protection to alloxan necrosis by anomers of D-glucose. Science. 1974;183(4123):424.
- [3]. Kim M, et al. D-glucose releases 5-hydroxytryptamine from human BON cells as a model of enterochromaffin cells. Gastroenterology. 2001 Dec;121(6):1400-6.

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

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