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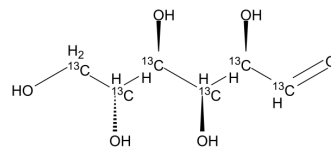
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D-Glucose-¹³C₆

Cat. No.:	HY-B0389A
CAS No.:	110187-42-3
Molecular Formula:	¹³ C ₆ H ₁₂ O ₆
Molecular Weight:	186.11
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	4°C, protect from light, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro	H ₂ O : 100 mg/mL (537.32 mM; Need ultrasonic)					
	Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
		1 mM		5.3732 mL	26.8658 mL	53.7317 mL
		5 mM		1.0746 mL	5.3732 mL	10.7463 mL
		10 mM		0.5373 mL	2.6866 mL	5.3732 mL
	Please refer to the solubility information to select the appropriate solvent.					
In Vivo	1. Add each solvent one by one: PBS					
	Solubility: 100 mg/mL (537.32 mM); Clear solution; Need ultrasonic					

BIOLOGICAL ACTIVITY

Description	D-Glucose- ¹³ C ₆ is a stable isotope-labeled counterpart of D-glucose (HY-B0389). D-Glucose- ¹³ C ₆ can be used as a metabolic tracer to trace glucose-related synthetic catabolism or as synthesis ingredient, minimal media reagent, and internal standard ^{[1][2][3]} .	
In Vivo	D-Glucose- ¹³ C ₆ (0.1 g in 25 g carrot medium for eggs or incorporated with 1 g of 99.5% sucrose in 15 mL water for adults) lightly decreases egg hatching rates, larval development, emerged adults, the period and the number of mating in <i>Ceratitis capitata</i> ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
	Animal Model:	<i>Ceratitis capitata</i> ^[1]
	Dosage:	0.1 g

Administration:	Add into 25 g carrot medium for eggs or incorporated with 1 g of 99.5% sucrose in 15 mL water for adults
Result:	Decreased hatching rate from 85% to 79% and number of emerged adults from 57% to 50.6%, prolonged development time. Decreased the number and period of mating lightly for larvae labeled flies, while decreased the period of mating a bit more for adult labeled flies.

CUSTOMER VALIDATION

- Cell Stem Cell. 2023 Aug 3;30(8):1028-1042.e7.
- Nat Struct Mol Biol. 2024 May 20.
- Nat Commun. 2024 Aug 22;15(1):7241.
- Adv Sci (Weinh). 2022 Oct 28;e2204711.
- J Transl Med. 2023 Dec 4;21(1):877.

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REFERENCES

- [1]. Al-Khshemawee H, et al. Stable isotope labelling of Ceratitis capitata. Plant Protect. Sci.2019;55(1):54-60.
- [2]. Malz F, et al. Synthesis of methyl 4'-O-methyl-beta-D-cellobioside-13C12 from D-glucose-13C6. Part 2: solid-state NMR studies. Carbohydr Res. 2007 Jan 15;342(1):65-70.
- [3]. Zhang H, et al. A convenient LC-MS method for assessment of glucose kinetics in vivo with D-[13C6]glucose as a tracer. Clin Chem. 2009 Mar;55(3):527-32.

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

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