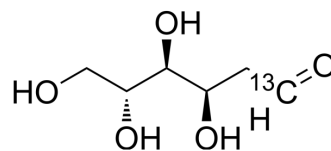


## 2-Deoxy-D-glucose-<sup>13</sup>C

<b>Cat. No.:</b>	HY-13966S2
<b>CAS No.:</b>	201612-55-7
<b>Molecular Formula:</b>	C <sub>5</sub> <sup>13</sup> CH <sub>12</sub> O <sub>5</sub>
<b>Molecular Weight:</b>	165.15
<b>Target:</b>	Apoptosis; Hexokinase; HSV; Isotope-Labeled Compounds
<b>Pathway:</b>	Apoptosis; Metabolic Enzyme/Protease; Anti-infection; Others
<b>Storage:</b>	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



### SOLVENT & SOLUBILITY

#### In Vitro

H<sub>2</sub>O : ≥ 100 mg/mL (605.51 mM)  
 DMSO : 100 mg/mL (605.51 mM; Need ultrasonic)  
 \* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	6.0551 mL	30.2755 mL	60.5510 mL
	5 mM	1.2110 mL	6.0551 mL	12.1102 mL
	10 mM	0.6055 mL	3.0276 mL	6.0551 mL

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

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.5 mg/mL (15.14 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.5 mg/mL (15.14 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.5 mg/mL (15.14 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

2-Deoxy-D-glucose-<sup>13</sup>C is the <sup>13</sup>C labeled 2-Deoxy-D-glucose. 2-Deoxy-D-glucose is a glucose analog that acts as a competitive inhibitor of glucose metabolism, inhibiting glycolysis via its actions on hexokinase[1][2].

#### 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.

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## REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019 Feb;53(2):211-216.
- [2]. Zhu Z, et al. 2-Deoxyglucose as an energy restriction mimetic agent: effects on mammary carcinogenesis and on mammary tumor cell growth in vitro. *Cancer Res*. 2005 Aug 1;65(15):7023-30.; Ueyama A, et al. Nonradioisotope assay of glucose uptake activity in r
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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