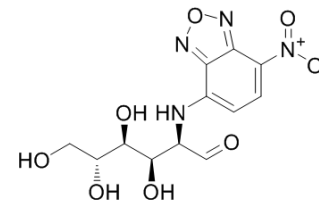


2-NBDG

Cat. No.:	HY-116215		
CAS No.:	186689-07-6		
Molecular Formula:	C ₁₂ H ₁₄ N ₄ O ₈		
Molecular Weight:	342.26		
Target:	Others		
Pathway:	Others		
Storage:	Powder	-20°C	3 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

H₂O : 5 mg/mL (14.61 mM; ultrasonic and warming and heat to 60°C)

Concentration	Mass		
	1 mg	5 mg	10 mg
1 mM	2.9218 mL	14.6088 mL	29.2176 mL
5 mM	0.5844 mL	2.9218 mL	5.8435 mL
10 mM	0.2922 mL	1.4609 mL	2.9218 mL

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

BIOLOGICAL ACTIVITY

Description

2-NBDG, a fluorescent D-glucose analog, is a fluorescent indicator for monitoring glucose uptake into living cells. Ex: 467 nm; Em 542 nm^{[1][2]}.

In Vitro

It has since been demonstrated in living mammalian cells that the uptake of 2-NBDG takes place through glucose transporters (GLUTs) in a concentration-, time- and temperature-dependent manner. A short-period application of 2-NBDG produced a remarkable increase in the fluorescence intensity in COS-1 cells over-expressing GLUT2, whereas the increase was barely detectable in mock-transfected cells. In mouse insulin-secreting clonal MIN6 cells, uptake was inhibited by cytochalasin B, a specific blocker for GLUTs, and by D-glucose in a dose-dependent manner^[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- J Cell Physiol. 2021 Jan 11.

- FASEB J. 2020 Oct;34(10):13548-13560.
- Int J Mol Sci. 2020 Jul 25;21(15):5276.
- Food Funct. 2021 Feb 2.
- Mar Drugs. 2020 Sep 22;18(9):485.

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REFERENCES

- [1]. Zou C, et al. 2-NBDG as a fluorescent indicator for direct glucose uptake measurement. J Biochem Biophys Methods. 2005 Sep 30;64(3):207-15.
- [2]. Katsuya Yamada, et al. A real-time method of imaging glucose uptake in single, living mammalian cells. Nat Protoc. 2007;2(3):753-62.
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Caution: Product has not been fully validated for medical applications. For research use only.

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