



2-NBD-Glucose

Data Sheet

Catalog Number:	MC11070	Product Type:	Small Molecule
Bio-Activity:	Glucose uptake probe	CAS #:	186689-07-6
Research Categories:	Diabetes Cancer	Chemical Name:	2-Deoxy-2-[(7-nitro-2,1,3-benzoxadiazol-4-yl)amino]-D-glucose
Solubility:	Soluble in DMSO (up to 10 mg/ml).	Molecular Formula:	C12H14N4O8
Purity:	> 98%	Molecular Weight:	342.27
Format:	Powder	Ship Temp:	Ambient
Storage:	-20°C (protect from light)		

Application Notes

Description/Data:

Fluorescent glucose uptake probe. May be used to monitor glucose uptake in live cells and as a cell viability indicator [1,2]. Has been used to measure glucose uptake in cultured hippocampal astrocytes using confocal epifluorescence microscopy [3]. NBD fluorescence typically displays excitation/emission maxima of 465/540 nm. Cell permeable.

References:

- 1) Yoshioka et al. (1996), A novel fluorescent derivative of glucose applicable to the assessment of glucose uptake activity of *Escherichia coli*; *Biochim. Biophys. Acta*, 1289 5
- 2) Yamada et al. (2000), Measurement of glucose uptake and intracellular calcium concentration in single, living, pancreatic beta-cells; *J. Biol. Chem.*, 275 22278
- 3) Loaiza et al. (2003), Glutamate triggers rapid glucose transport stimulation in astrocytes as evidenced by real-time confocal microscopy; *J. Neurosci.*, 23 7337

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