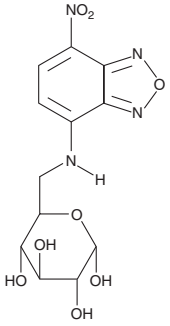
PRODUCT INFORMATION

6-NBDG

Item No. 13961

CAS Registry No.:	108708-22-1
Formal Name:	6-deoxy-6-[(7-nitro-2,1,3-benzoxadiazol-4-yl)amino]-D-glucose
Synonym:	6-NBD-Glucose
MF:	$C_{12}H_{14}N_4O_8$
FW:	342.3
Purity:	≥98% (mixture)
Ex./Em. Max:	465/535 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

6-NBDG is supplied as a crystalline solid. A stock solution may be made by dissolving the 6-NBDG in the solvent of choice, which should be purged with an inert gas. 6-NBDG is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 6-NBDG in DMSO and DMF is approximately 10 mg/ml. 6-NBDG is slightly soluble in ethanol.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 6-NBDG can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 6-NBDG in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

6-NBDG is a non-hydrolyzable fluorescent glucose analog that is used to monitor glucose uptake and transport in living cells.[1-3] 6-NBDG has been validated as a probe for the glucose transporter GLUT1 in cells.[4] The fluorophore NBD displays excitation/emission maxima of 465/535 nm.

References

1. Hansen, T.V.A., Hansen, M., Nejsum, P., *et al.* Glucose absorption by the bacillary band of *Trichuris muris*. *PLoS Negl. Trop. Dis.* **10(9)**, e0004971 (2016).
2. Wang, M.S., Luo, Z., and Nitin, N. Rapid assessment of drug response in cancer cells using microwell array and molecular imaging. *Anal. Bioanal. Chem.* **406(17)**, 4195-4206 (2014).
3. Zaman, R.T., Kosuge, H., Pratx, G., *et al.* Fiber-optic system for dual-modality imaging of glucose probes 18F-FDG and 6-NBDG in atherosclerotic plaques. *PLoS One* **9(9)**, e108108 (2014).
4. Barros, L.F., Bittner, C.X., Loaiza, A., *et al.* Kinetic validation of 6-NBDG as a probe for the glucose transporter GLUT1 in astrocytes. *J. Neurochem.* **109(Suppl 1)**, 94-100 (2009).

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