

23002-v 2-NBDG

Reagent for Monitoring Glucose Uptake into Single, Living Cells

The vial contains exactly **0.52 mg (1.5 μmol)** of 2-NBDG, which has been lyophilized as an amorphous powder from aqueous solution.

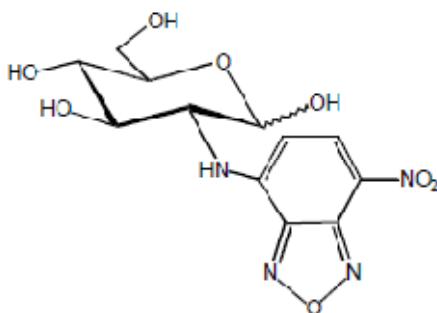
Solution: Carefully open the cap. Pour **750 μl of distilled water** into the vial. Close the cap tightly. Shake well until all the contents are dissolved. This procedure furnishes a **2 mM** solution of the titled compound.

Please note: Depending on the purpose of the experiment, the solution prepared above should be diluted with the optimum pH buffer. For mammalian cells, pH 7.4 is strongly recommended, while for bacteria, a neutral buffer (pH 6.8-7.0) may be used. General procedure for the experiment using 2-NBDG is described in reference 3) below.

Storage: Storage of the prepared solution is not recommended.
(solution)

Storage: The undissolved compound should be stored at -20°C in the dark.
(powder)

Structure:



2-[N-(7-Nitrobenz-2-oxa-1,3-diazol-4-yl)amino]-2-deoxy-D-glucose
(M.W. 342.26) $\text{C}_{12}\text{H}_{14}\text{N}_4\text{O}_8$

References:

- 1) K. Yoshioka, et al., *Biochim. Biophys. Acta*, **1289**, 5 (1996). (Original)
- 2) K. Yamada, et al., *J. Biol. Chem.*, **275**, 22278 (2000). (*Measurement of Glucose Uptake in Living Mammalian Cells*)
- 3) K. Yamada, et al., *Nature Protocols*, **2**, 753 (2007). (*Chem. Synthesis & Protocols for Measurement*)
- 4) J.V. Rocheleau, et al., *Proc. Natl. Acad. Sci. U.S.A.*, **101**, 12899 (2004). (*Monitoring of Glucose Uptake and NAD(P)H Response in Islet*)

2-NBDG is sold for research purposes only and not for use in humans.

<http://www.peptanova.de/products/Carbohydrates-and-Conjugates/2-NBDG.html>