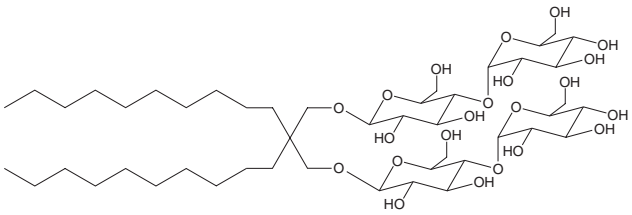
PRODUCT INFORMATION

MNG-3

Item No. 11858

CAS Registry No.:	1257852-96-2
Formal Name:	2,2-didecyl-1,3-propanediyl *bis*[4-O-α-D-glucopyranosyl]-β-D-glucopyranoside
Synonyms:	Lauryl Maltose Neopentyl Glycol, Maltose Neopentyl Glycol-3
MF:	$C_{47}H_{88}O_{22}$
FW:	1,005.2
Purity:	≥95%
Supplied as:	A crystalline 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

MNG-3 is supplied as a crystalline solid. A stock solution may be made by dissolving the MNG-3 in the solvent of choice, which should be purged with an inert gas. MNG-3 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of MNG-3 in ethanol is approximately 10 mg/ml and approximately 30 mg/ml in DMSO and DMF.

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 MNG-3 can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of MNG-3 in PBS (pH 7.2) is approximately 0.25 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

MNG-3 is an amphiphilic detergent for solubilization, stabilization, and crystallization of membrane proteins.[1,2] It has a low critical micelle concentration (CMC = ~10 µM), which allows solubilization of membrane proteins without significantly inhibiting cell-free reactivity.[1,3] MNG-3 has been used to recover diverse membrane proteins, including G protein-coupled receptors, respiratory complexes, transporters, photosynthetic protein complexes, and viral proteins.[1-4]

References

1. Chae, P. S., Rasmussen, S. G. F., Rana, R., *et al*. Maltose-neopentyl glycol (MNG) amphiphiles for solubilization, stabilization and crystallization of membrane proteins. *Nat. Methods* **7(12)**, 1003-1008 (2010).
2. Cho, K. H., Husri, M., Amin, A., *et al*. Maltose neopentyl glycol-3 (MNG-3) analogues for membrane protein study. *Analyst* **140(9)**, 3157-3163 (2015).
3. Fogeron, M.-L., Badillo, A., Jirasko, V., *et al*. Wheat germ cell-free expression: Two detergents with a low critical micelle concentration allow for production of soluble HCV membrane proteins. *Protein Expr. Purif.* **105**, 39-46 (2015).
4. Chung, K. Y., Kim, T. H., Manglik, A., *et al*. Role of detergents in conformational exchange of a G protein-coupled receptor. *J. Biol. Chem.* **287(43)**, 36305-36311 (2012).

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