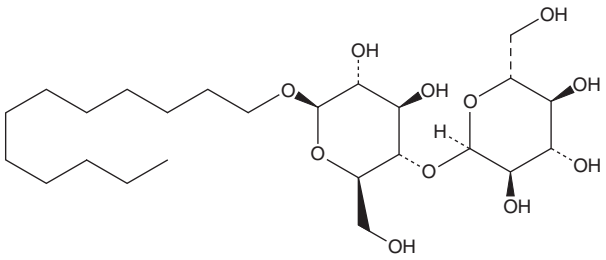
PRODUCT INFORMATION

n-Dodecyl-β-D-maltoside

Item No. 16494

CAS Registry No.:	69227-93-6
Formal Name:	dodecyl 4-O-α-D-glucopyranosyl-β-D-glucopyranoside
Synonyms:	DDM, Dodecyl Maltoside
MF:	$C_{24}H_{46}O_{11}$
FW:	510.6
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

n-Dodecyl-β-D-maltoside (DDM) is supplied as a crystalline solid. A stock solution may be made by dissolving the DDM in the solvent of choice, which should be purged with an inert gas. DDM is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of DDM in ethanol and DMSO is approximately 10 mg/ml and approximately 20 mg/ml in 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 DDM can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of DDM in PBS (pH 7.2) is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

DDM is a non-ionic detergent commonly used to solubilize membrane-associated proteins.[1,2] In particular, it helps retain the native conformation and activity of membrane-associated proteins, and facilitates the reforming of these proteins after denaturation.[3-5] The critical micelle concentration of DDM is approximately 0.18 mM in water, decreases in the presence of sodium chloride or sucrose, and increases in urea.[6]

References

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2. Rouse, S.L., Marcoux, J., Robinson, C.V., *et al.* Dodecyl maltoside protects membrane proteins in vacuo. *Biophys. J.* **105(3)**, 648-656 (2013).
3. Koch, K.W. Purification and identification of photoreceptor guanylate cyclase. *J. Biol. Chem.* **266(13)**, 8634-8637 (1991).
4. De Foresta, B., Henao, F., and Chameil, P. Cancellation of the cooperativity of Ca^{2+} binding to sarcoplasmic reticulum Ca^{2+}-ATPase by the non-ionic detergent dodecylmaltoside. *Eur. J. Biochem.* **223(2)**, 359-369 (1994).
5. Zardeneta, G. and Horowitz, P.M. Micelle-assisted protein folding. Denatured rhodanese binding to cardiolipin-containing lauryl maltoside micelles results in slower refolding kinetics but greater enzyme reactivation. *J. Biol. Chem.* **267(9)**, 5811-5816 (1992).
6. Walter, A., Kuehl, G., Barnes, K., *et al.* The vesicle-to-micelle transition of phosphatidylcholine vesicles induced by nonionic detergents: Effects of sodium chloride, sucrose and urea. *Biochim. Biophys. Acta* **1508(1-2)**, 20-33 (2000).

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