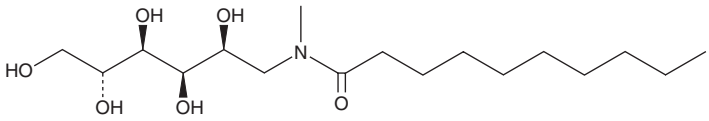
PRODUCT INFORMATION

MEGA-10

Item No. 25703

CAS Registry No.:	85261-20-7
Formal Name:	1-deoxy-1-[methyl(1-oxodecyl) amino]-D-glucitol
Synonym:	N-decanoyl-N-Methylglucamine
MF:	$C_{17}H_{35}NO_6$
FW:	349.5
Purity:	≥98%
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

MEGA-10 is supplied as a crystalline solid. A stock solution may be made by dissolving the MEGA-10 in the solvent of choice, which should be purged with an inert gas. MEGA-10 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of MEGA-10 in ethanol is approximately 1 mg/ml and approximately 30 mg/ml in DMSO and DMF.

MEGA-10 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, MEGA-10 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. MEGA-10 has a solubility of approximately 0.33 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

MEGA-10 is a nonionic detergent that can be used to solubilize membrane proteins.[1] It has a critical micelle concentration (CMC) of 4.88 mM under no salt conditions, which decreases in the presence of sodium chloride.[2] MEGA-10 has been used to reconstitute amino acid transporters from rat liver plasma membrane vesicles into artificial phospholipid membranes.[3] It has also been used to solubilize the melibiose transport carrier from *E. coli* membranes and reconstitute it into liposomes.[4]

References

1. Hildreth, J.E.K. *N*-D-Gluco-*N*-methylalkanamide compounds, a new class of non-ionic detergents for membrane biochemistry. *Biochem. J.* **207(2)**, 363-366 (1982).
2. Molina-Bolívar, J.A., Hierrezuelo, J.M., and Carnero Ruiz, C. Self-assembly, hydration, and structures in *N*-decanoyl-*N*-methylglucamide aqueous solutions: Effect of salt addition and temperature. *J. Colloid. Interface Sci.* **313(2)**, 656-664 (2007).
3. Quesada, A.R. and McGivan, J.D. A rapid method for the functional reconstitution of amino acid transport systems from rat liver plasma membranes. Partial purification of System A. *Biochem J.* **255(3)**, 963-969 (1988).
4. Hanatani, M., Nishifuji, K., Futai, M., *et al.* Solubilization and reconstitution of membrane proteins of *Escherichia coli* using alkanoyl-N-methylglucamides. *J. Biochem.* **95(5)**, 1349-1353 (1984).

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