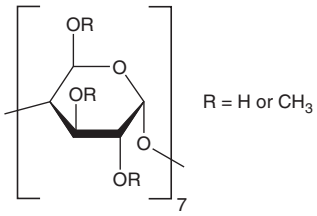
PRODUCT INFORMATION

Methyl-β-cyclodextrin

Item No. 21633

CAS Registry No.: 128446-36-6
Formal Name: β-cyclodextrin, methyl ethers
Synonym: Randomly methylated β-cyclodextrin
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

Methyl-β-cyclodextrin is supplied as a solid. A stock solution may be made by dissolving the methyl-β-cyclodextrin in the solvent of choice. Methyl-β-cyclodextrin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of methyl-β-cyclodextrin in these solvents is approximately 30 mg/ml.

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 methyl-β-cyclodextrin can be prepared by directly dissolving the solid in aqueous buffers. The solubility of methyl-β-cyclodextrin in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Methyl-β-cyclodextrin is a randomly methylated form of the cyclic oligosaccharide β-cyclodextrin (Item No. 23387).[1] Methyl-β-cyclodextrin contains seven D-(+)-glucopyranose units that contain randomized hydrogen or methyl groups. Methyl-β-cyclodextrin has been used to improve the aqueous solubility of various compounds and to extract cholesterol from lipid membranes.[1,2] Methyl-β-cyclodextrin (5 mM) reduces α-synuclein levels in the membrane and detergent-insoluble fractions from B103 neuroblastoma cells transfected with human α-synuclein.[3] It also reduces α-synuclein levels in mouse brain in a transgenic model of α-synucleinopathy.

References

1. Katageri, A.R. and Sheikh, M.A. Cyclodextrin a gift to pharmaceutical world review. *Int. Res. J. Pharm.* **3(1)**, 52-56 (2012).
2. Besenicar, M.P., Bavdek, A., Kladnik, A., *et al.* Kinetics of cholesterol extraction from lipid membranes by methyl-β-cyclodextrin--a surface plasmon resonance approach. *Biochim. Biophys. Acta.* **1778(1)**, 175-184 (2008).
3. Bar-On, P., Rockenstein, E., Adame, A., *et al.* Effects of the cholesterol-lowering compound methyl-β-cyclodextrin in models of α-synucleinopathy. *J. Neurochem.* **98(4)**, 1032-1045 (2006).

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