

PRODUCT INFORMATION



Dodecylphosphocholine-d₃₈

Item No. 25996

CAS Registry No.: 130890-78-7
Formal Name: 2-[[[(dodecyl-d₂₅-oxy)hydroxyphosphinyl]oxy]-N,N,N-tri(methyl-d₃)-ethan-1,1,2,2-d₄-aminium, inner salt

Synonym: n-Dodecylphosphocholine-d₃₈

MF: C₁₇D₃₈NO₄P

FW: 389.7

Chemical Purity: ≥95% (Dodecylphosphocholine)

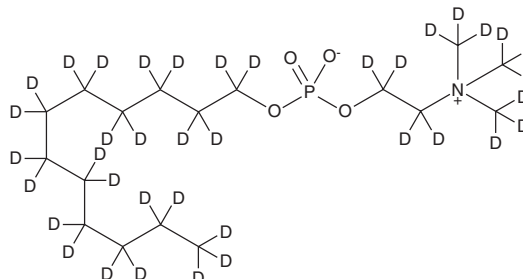
Deuterium

Incorporation: ≥99% deuterated forms (d₁-d₃₈); ≤1% d₀

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

Dodecylphosphocholine-d₃₈ is intended for use as an internal standard for the quantification of dodecylphosphocholine (Item No. 25629) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Dodecylphosphocholine-d₃₈ is supplied as a crystalline solid. A stock solution may be made by dissolving the dodecylphosphocholine-d₃₈ in the solvent of choice, which should be purged with an inert gas. Dodecylphosphocholine-d₃₈ is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of dodecylphosphocholine-d₃₈ in ethanol is approximately 15 mg/ml and approximately 16 mg/ml in DMSO and DMF.

Description

Dodecylphosphocholine is a detergent that is commonly used for membrane protein structure determination using NMR.¹ It has also been used to generate membrane mimetic micelles and to characterize pore formation by the influenza M2 transmembrane domain within a synthetic membrane.² Dodecylphosphocholine micelles induce amyloid fibril formation by the prion protein (PrP) β-strand (PrP (110-136)).³ Dodecylphosphocholine has a critical micelle concentration (CMC) of approximately 1.5 mM.

References

1. Kurauskas, V., Hessel, A., Ma, P., *et al.* How detergent impacts membrane proteins: Atomic-level views of mitochondrial carriers in dodecylphosphocholine. *J. Phys. Chem. Lett.* **9**(5), 933-938 (2018).
2. Cady, S.D., Wang, J., Wu, Y., *et al.* Specific binding of adamantane drugs and direction of their polar amines in the pore of the influenza M2 transmembrane domain in lipid bilayers and dodecylphosphocholine micelles determined by NMR spectroscopy. *J. Am Chem. Soc.* **133**(12), 4274-4284 (2011).
3. Sauv , S. and Aubin, Y. Dodecylphosphocholine micelles induce amyloid formation of the PrP(110-136) peptide via an α-helical metastable conformation. *PLoS One* **11**(12), e0168021 (2016).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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