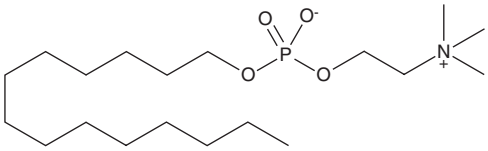
PRODUCT INFORMATION

Tetradecylphosphocholine

Item No. 25700

CAS Registry No.: 77733-28-9
Formal Name: 2-[[hydroxy(tetradecyloxy) phosphinyl]oxy]-N,N,N-trimethyl-ethanaminium, inner salt
Synonym: Fos-choline 14
MF: $C_{19}H_{42}NO_4P$
FW: 379.5
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

Tetradecylphosphocholine is supplied as a crystalline solid. A stock solution may be made by dissolving the tetradecylphosphocholine in the solvent of choice. Tetradecylphosphocholine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of tetradecylphosphocholine in ethanol is approximately 15 mg/ml and approximately 16 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 tetradecylphosphocholine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of tetradecylphosphocholine in PBS, pH 7.2, is approximately 25 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Tetradecylphosphocholine is a zwitterionic surfactant. It has been used in the solubilization and purification of G protein-coupled receptors (GPCRs).[1,2] It has also been used as the stationary phase in ion chromatography for the determination of inorganic acids.[3] Tetradecylphosphochline has a critical micelle concentration (CMC) of approximately 0.12 mM.

References

1. Cook, B.L., Ernberg, K.E., Chung, H., *et al.* Study of a synthetic human olfactory receptor 17-4: Expression and purification from an inducible mammalian cell line. *PLoS One* **3(8)**, e2920 (2008).
2. Ren, H., Yu, D., Ge, B., *et al.* High-level production, solubilization and purification of synthetic human GPCR chemokine receptors CCR5, CCR3, CXCR4, and CX3CR1. *PLoS One* **4(2)**, e4509 (2009).
3. Hu, W., Hasebe, K., Tanaka, K., *et al.* Determination of inorganic acids by ion chromatography with n-tetradecylphosphocholine (zwitterionic surfactant) as the stationary phase and pure water as the mobile phase. *Fresenius J. Anal. Chem.* **370(4)**, 399-402 (2001).

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