

Product Data Sheet

Product Name: Cyclophosphamide-d₄

Cat. No.: GC47148

Chemical Properties

Cas. No. 173547-45-0

SMILES [H]N1P(OCC([2H])([2H])C1([2H])([2H])(N(CCCl)CCCl)=O

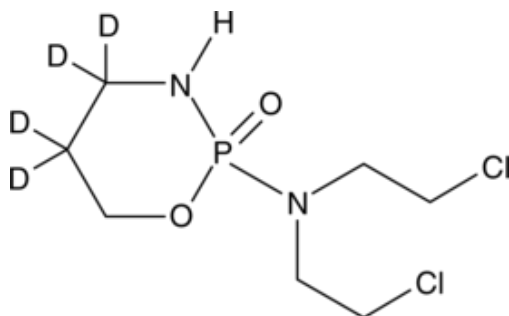
Formula C₇H₁₁Cl₂D₄N₂O₂P M.Wt 265.1

Solubility Chloroform: Slightly Soluble, Methanol: Slightly Soluble
Storage Store at -20°C; protect from light

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

Cyclophosphamide-d₄ contains four deuterium atoms. It is intended for use as an internal standard for the quantification of cyclophosphamide by GC- or LC-MS. Cyclophosphamide is a nitrogen mustard alkylating agent used in the treatment of cancers and autoimmune disorders.^{1,2} In cells with low levels of aldehyde dehydrogenase, cyclophosphamide acts as a prodrug and is metabolized to the active compound phosphoramidate mustard, which crosslinks with DNA and causes cell death.^{3,4}

1. Yildirim-Toruner, C., and Diamond, B. Current and novel therapeutics in the treatment of systemic lupus erythematosus. *J. Allergy Clin. Immunol.* 127(2):303-314 (2011)
2. Appel, G.B. New and future therapies for lupus nephritis. *Cleve. Clin. J. Med.* 79(2):134-140 (2012)
3. Ahmed, A.R., and Hombal,

Caution: Product has not been fully validated for medical applications. For research use only.

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S.M.Cyclophosphamide (Cytosan). A review on relevant pharmacology and clinical usesJ. Am. Acad. Dermatol.11(6)1115-1126(1984) 4.Bischoff, P.L., Holl, V., Coelho, D., et al.Apoptosis at the interface of immunosuppressive and anticancer activities: The examples of two classes of chemical inducers, oxysterols and alkylating agentsCurr. Med. Chem.7(7)693-713(2000)

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