

1-Deoxy-D-xylulose 5-phosphate (DXP)

Catalog number: I-M050

Molecular Formula: C₅H₁₀NaO₇P

MW: 236.01

CAS: 190079-18-6

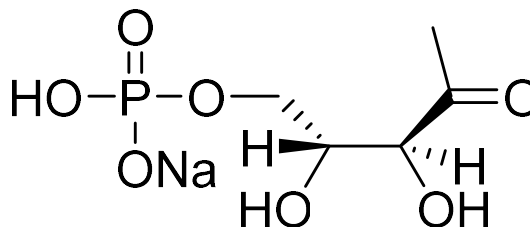
Solubility: water or most aqueous buffers, >5 mg/mL

Storage and Handling: Store dry at -20 °C. Stock solutions should be stored frozen (-20 °C or below).

Background: 1-Deoxy-D-xylulose 5-phosphate (DXP) is a substrate for enzymes in the biosynthesis of thiamine diphosphate (vitamin B1), pyridoxol phosphate (vitamin B6), and the nonmevalonate (methylerythritol phosphate, MEP) family of isoprenoid compounds recently discovered in bacteria and plant chloroplasts. DXP is prepared via chemical synthesis from enantiomerically pure precursors. Due to the absence in humans, the MEP pathway represents an attractive target for antibacterial drug discovery and herbicides.

References: 1) W. N. Hunter "The Non-mevalonate Pathway of isoprenoid Precursor Biosynthesis" *J Biol. Chem.* **2007**, *282*, 21573-21577.

2) M. Rohmer "From Molecular Fossils of Bacterial Hopanoids to the Formation of Isoprene Units: Discovery and Elucidation of the Methylerythritol Phosphate Pathway" *Lipids* **2008**, *43*, 1095-1107.



Hazardous Properties and Cautions: The toxicological and pharmacological properties of this compound are not fully known. For further information see the MSDS on request. This product is manufactured and shipped only in small quantities, intended for research and development in a laboratory utilizing prudent procedures for handling chemicals of unknown toxicity, under the supervision of persons technically qualified to evaluate potential risks and authorized to enforce appropriate health and safety measures. As with all research chemicals, precautions should be taken to avoid unnecessary exposures or risks.

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Technical Data Sheet, Rev 6, 5/3/24– **For research use only.** Not intended for diagnostic or therapeutic use.