

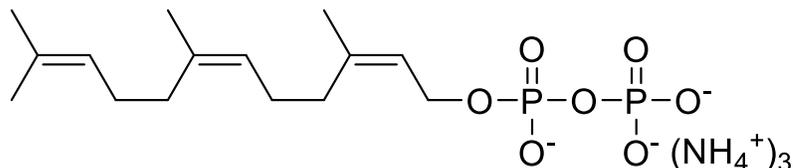
2Z,6Z-Farnesyl Diphosphate (ZZ-FPP)

Catalog number: I-0170

Molecular Formula: $C_{15}H_{37}N_3O_7P_2$

MW: 433.4

CAS: 27248-37-9



Alternate Name: 2Z,6Z-Farnesyl pyrophosphate

Solubility: water and 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: Isoprenoid compounds are a diverse group of natural products which are essential components in all cells. Isoprenoids are biosynthesized from the simple precursors isopentenyl diphosphate (IPP) and dimethylallyl diphosphate (DMAPP). Eukaryotes, fungi, and some gram-positive bacteria produce IPP through the mevalonate (MVA) pathway whereas gram-negative and some gram-positive bacteria utilize the non-mevalonate or 2-C-methyl-D-erythritol-4-phosphate (MEP) pathway. 2Z,6Z-Farnesyl diphosphate is synthesized by Z-farnesyl diphosphate synthase (*M. tuberculosis*) from neryl diphosphate. It is not a substrate for protein-farnesyl transferase.

References: 1) M.C. Schulbach, "Purification, Enzymatic Characterization, and Inhibition of the Z-Farnesyl Diphosphate Synthase from *Mycobacterium tuberculosis*" *J. Biol Chem.*, 2001, 276, 11624-11630 .

2) Y. Shao. "Stereospecific Synthesis and Biological Evaluation of Farnesyl Diphosphate Isomers" *Org. Lett.* 1999, 1, 627-630.

3) Bleeker, P., E. Spyropoulou, et al. (2011). "RNA-seq discovery, functional characterization, and comparison of sesquiterpene synthases from *Solanum lycopersicum* and *Solanum habrochaites trichomes*." *Plant Molecular Biology* 77(4-5): 323-336.

4) Nagel, R., J. Gershenzon, et al. (2012). "Nonradioactive assay for detecting isoprenyl diphosphate synthase activity in crude plant extracts using liquid chromatography coupled with tandem mass spectrometry." *Analytical Biochemistry* 422(1): 33.

5) Falara, V., Akhtar, T. A., Nguyen, T. T. H., Spyropoulou, E. A., Bleeker, P. M., Schauvinhold, I., ... Pichersky, E. (2011). "The tomato terpene synthase gene family." *Plant Physiology*, 157(2), 770-789. DOI: 10.1104/pp.111.179648

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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