

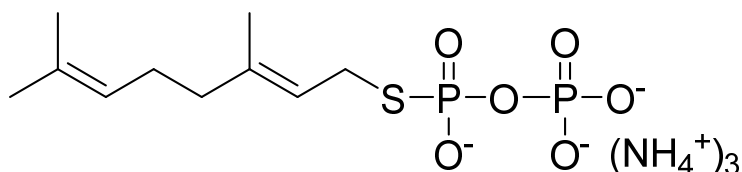
## Geranyl S-thiolodiphosphate (GSPP)

Catalog number: I-S100

Molecular Formula:  $C_{10}H_{29}N_3O_6P_2S$

MW: 381.37

CAS: 373597-44-5



Solubility: water or methanol, > 1 mg/mL

Storage and Handling: Store dry at  $-20\text{ }^\circ\text{C}$ . Stock solutions should be stored frozen ( $-20\text{ }^\circ\text{C}$  or below).

Background: Geranyl thiolodiphosphate (GSPP) is an analog of GPP in which the non-bridging oxygen has been replaced by sulfur resulting in a less-reactive compound. GSPP is turned over by avian farnesyl diphosphate synthase (FPPase) more slowly than FPP and acts as a competitive inhibitor ( $K_i = 24.8\text{ }\mu\text{M}$ ).

References: 1) Phan, R. M. and C. D. Poulter (2001). "Synthesis of (S)-Isoprenoid Thiodiphosphates as Substrates and Inhibitors." *The Journal of Organic Chemistry* 66(20): 6705.

2) Phan, R. M. and C. D. Poulter (2000). "Synthesis of Geranyl S-Thiolodiphosphate. A New Alternative Substrate/Inhibitor for Prenyltransferases." *Organic Letters* 2(15): 2287.

3) Kuzuyama, T., J. P. Noel, et al. (2005). "Structural basis for the promiscuous biosynthetic prenylation of aromatic natural products." *Nature* 435(7044): 983.

4) Koksals, M., W. K. W. Chou, et al. (2012). "Structure of 2-Methylisoborneol Synthase from *Streptomyces coelicolor* and Implications for the Cyclization of a Noncanonical C-Methylated Monoterpenoid Substrate." *Biochemistry* 51(14): 3011.

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.

Warranty and Disclaimer: Echelon warrants the product conforms to the specifications stated herein. In the event of nonconformity, Echelon will replace products or refund purchase price, at its sole option, and Echelon shall not be responsible for any other loss or damage, whether known or foreseeable to Echelon. No other warranties apply, express or implied, including but not limited to warranty of fitness for any purpose or implied warranty of merchantability. Purchaser is solely responsible for all consequences of its use of the product and Echelon assumes no responsibility therefore, including success of purchaser's research and development, or health or safety of any uses of the product.

