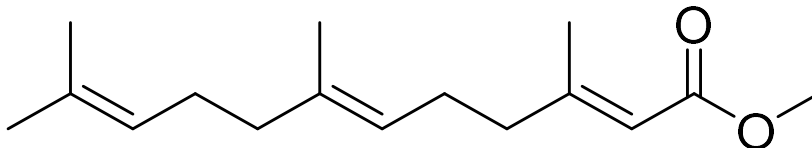


(*E,E*)-Methyl Farnesoate

Catalog number: S-0153



Molecular Formula: C₁₆H₂₆O₂

MW: 250.38

CAS#: 10485-70-8

Alternate Name: Methyl (2*E*,6*E*)-3,7,11-trimethyldodeca-2,6,10-trienoate

Solubility: Soluble in most organic solvents, poor solubility in water

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

Background: Methyl farnesoate (MF) is a crustacean reproductive hormone that is structurally similar to insect juvenile hormone. It is responsible for enhancing reproductive maturation, maintaining juvenile morphology, and influencing male sex determination. Exposure of female Daphnids to increasing levels of MF increases the percentage of males in a brood in a dose-dependant manner. MF is endogenously produced in the mandibular organ and environmental factors such as salinity and temperature can influence hemolymph levels.

References: 1) Olmstead, A. W. and G. A. LeBlanc (2007). "The environmental-endocrine basis of gynandromorphism (intersex) in a crustacean." *Int J Biol Sci* 3(2): 77-84.

2) Eads, B. D., J. Andrews, et al. (2007). "Ecological genomics in Daphnia: stress responses and environmental sex determination." *Heredity* 100(2): 184.

3) Nagaraju, G. P. C. and D. W. Borst (2008). "Methyl farnesoate couples environmental changes to testicular development in the crab *Carcinus maenas*." *Journal of Experimental Biology* 211(17): 2773-2778.

4) P. Liu, H.-J. Peng and J. Zhu. (2015) Juvenile hormone-activated phospholipase C pathway enhances transcriptional activation by the methoprene-tolerant protein. In. *Proceedings of the National Academy of Sciences USA* 10.1073/pnas.1423204112

5) S. Schenk, et al. "Discovery of methylfarnesoate as the annelid brain hormone reveals an ancient role of sesquiterpenoids in reproduction" *eLife* 2016;5:e17126. DOI: 10.7554/eLife.17126

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 5, 5/13/24– **For research use only.** Not intended for diagnostic or therapeutic use.

