

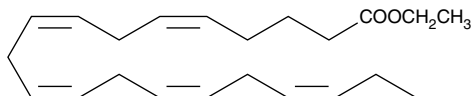
# Product Information



## Eicosapentaenoic Acid ethyl ester

Item No. 10008884

**CAS Registry No.:** 86227-47-6  
**Formal Name:** 5Z,8Z,11Z,14Z,17Z-eicosapentaenoic acid, ethyl ester;  
**Synonym:** EPA ethyl ester  
**MF:** C<sub>22</sub>H<sub>34</sub>O<sub>2</sub>  
**FW:** 330.5  
**Purity:** ≥98%  
**Stability:** ≥1 year at -20°C  
**Supplied as:** A solution in ethanol



### Laboratory Procedures

For long term storage, we suggest that eicosapentaenoic acid ethyl ester be stored as supplied at -20°C. It should be stable for at least one year.

Eicosapentaenoic acid ethyl ester is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of eicosapentaenoic acid ethyl ester in these solvents is approximately 100 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of eicosapentaenoic acid ethyl ester is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of eicosapentaenoic acid ethyl ester in PBS, pH 7.2, is approximately 0.15 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Fish oils in the diet have anti-inflammatory and cardiovascular benefits due to an abundance of ω-3 polyunsaturated fatty acids (PUFAs), including EPA.<sup>1</sup> EPA ethyl ester is a stabilized ethyl ester form of this ω-3 C20:5 PUFA. EPA competitively inhibits the metabolism of (ω-6) arachidonic acid by cyclooxygenase enzymes, suggesting that eicosapentaenoic acid ethyl ester may also directly modulate the actions of enzymes involved in fatty acid metabolism.<sup>2</sup> In addition, dietary eicosapentaenoic acid ethyl ester in rats increases fatty acid β-oxidation enzyme levels, indicating that eicosapentaenoic acid ethyl ester may alter the expression of genes related to fatty acid metabolism.<sup>3,4</sup> Consistent with this concept, dietary supplementation with EPA ethyl ester in rats also down-regulates lipogenic genes, and decreases plasma cholesterol and triglyceride levels.<sup>5</sup> Also, in rats fed a high-fat diet, supplementation with EPA ethyl ester blocks induced insulin resistance and corrects changes in adiponectin levels and TNF-α expression.<sup>6</sup>

### References

1. von Schacky, C. *Vascular Health and Risk Management* **2**(3), 251-262 (2006).
2. Wada, M., DeLong, C.J., Hong, Y.H., *et al. J. Biol. Chem.* **282**(31), 22254-22266 (2007).
3. Hong, D.D., Takahashi, Y., Kushiro, M., *et al. Biochim. Biophys. Acta* **1635**, 29-36 (2003).
4. Arachchige, P.G., Takahashi, Y., and Ide, T. *Metabolism Clinical and Experimental* **55**, 381-390 (2006).
5. Pérez-Echarri, N., Pérez-Matute, P., Marcos-Gómez, B., *et al. Journal of Nutritional Biochemistry* (2008).
6. Pérez-Matute, P., Pérez-Echarri, N., Martínez, J.A., *et al. British Journal of Nutrition* **97**, 389-398 (2007).

### Related Products

For a list of related products please visit: [www.caymanchem.com/catalog/10008884](http://www.caymanchem.com/catalog/10008884)

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY. NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

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