

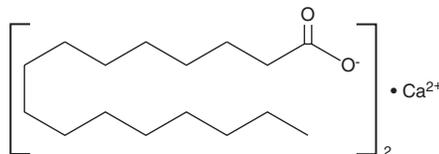
# PRODUCT INFORMATION



## Palmitate (calcium salt)

Item No. 10010279

**CAS Registry No.:** 542-42-7  
**Formal Name:** hexadecanoic acid, calcium salt  
**Synonym:** Calcium palmitate, FA 16:0  
**MF:**  $[C_{16}H_{31}O_2]_2 \cdot Ca$   
**FW:** 550.9  
**Purity:**  $\geq 98\%$   
**Supplied as:** A crystalline solid  
**Storage:**  $-20^\circ C$   
**Stability:**  $\geq 4$  years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Palmitate (calcium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the palmitate (calcium salt) in an organic solvent purged with an inert gas. Palmitate (calcium salt) is soluble in the organic solvent chloroform, to a concentration of approximately 0.3 mg/ml.

If aqueous stock solutions are required for biological experiments, they can best be prepared by diluting the organic solvent into aqueous buffers or isotonic saline. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

### Description

Saturated fatty acids are synthesized by both plants and animals from acetyl coenzyme A as a form of long-term energy storage. Palmitic acid is a common 16-carbon saturated fat that represents 10-20% of the normal dietary fat intake. Palmitic acid also makes up approximately 25% of the total plasma fatty acids in plasma lipoproteins.<sup>1</sup> Saturated free fatty acids induce the expression of cyclooxygenase 2,<sup>2</sup> and after protein acylation, are used to confer lipid anchoring to a variety of signaling molecules.<sup>3-6</sup> Palmitate is the salt (in this case calcium) of palmitic acid. It is this anion that is observed at physiological pH. Calcium palmitate is one of the major components of gallstones.

### References

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2. Lee, J.Y., Sohn, K.H., Rhee, S.H., *et al.* Saturated fatty acids, but not unsaturated fatty acids, induced the expression of cyclooxygenase-2 mediated through toll-like receptor 4. *J. Biol. Chem.* **276(20)**, 16683-16689 (2001).
3. Dietzen, D.J., Hastings, W.R., and Lublin, D.M. Caveolin is palmitoylated on multiple cysteine residues. Palmitoylation is not necessary for localization of caveolin to caveolae. *J. Biol. Chem.* **270**, 6838-6842 (1995).
4. Robinson, L.J. and Michel, T. Mutagenesis of palmitoylation sites in endothelial nitric oxide synthase identifies a novel motif for dual acylation and subcellular targeting. *Proc. Natl. Acad. Sci. USA* **92**, 11776-11780 (1995).
5. Topinka, J.R. and Bredt, D.S. N-terminal palmitoylation of PSD-95 regulates association with cell membranes and interaction with K<sup>+</sup> channel Kv1.4. *Neuron* **20**, 125-134 (1998).
6. Miggin, S.M., Lawler, O.A., and Kinsella, B.T. Palmitoylation of the human prostacyclin receptor. Functional implications of palmitoylation and isoprenylation. *J. Biol. Chem.* **278(9)**, 6947-6958 (2003).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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