

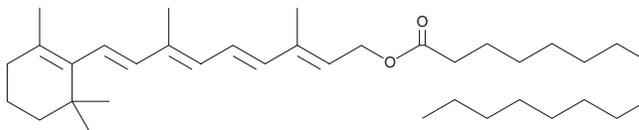
# PRODUCT INFORMATION



## Retinyl Palmitate

Item No. 23796

**CAS Registry No.:** 79-81-2  
**Formal Name:** retinol hexadecanoate  
**Synonyms:** all-*trans* Retinyl Palmitate, Vitamin A Palmitate  
**MF:** C<sub>36</sub>H<sub>60</sub>O<sub>2</sub>  
**FW:** 524.9  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 327 nm  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

Retinyl palmitate is supplied as a solid. A stock solution may be made by dissolving the retinyl palmitate in the solvent of choice, which should be purged with an inert gas. Retinyl palmitate is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of retinyl palmitate in ethanol is approximately 15 mg/ml and approximately 5 mg/ml in DMSO and DMF.

Retinyl palmitate is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, retinyl palmitate should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Retinyl palmitate has a solubility of approximately 0.3 mg/ml in a solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Retinyl palmitate is a natural ester form of vitamin A (Item No. 20241).<sup>1</sup> It is a major storage form of vitamin A *in vivo*.<sup>2</sup> Retinyl palmitate (1-100 μM) is cytotoxic to HeLa cells both alone and to a greater effect when combined with photodynamic therapy.<sup>3</sup> It decreases tumor volume by 50% in a human gallbladder cancer mouse xenograft model when administered at doses of 1,000 or 2,500 IU/animal per day for three weeks and when administered prior to tumor implantation at a dose of 2,500 IU/animal.<sup>4</sup>

### References

1. McCormick, A.M. and Napoli, J.L. Identification of 5,6-epoxyretinoic acid as an endogenous retinol metabolite. *J. Biol. Chem.* **257(4)**, 1730-1735 (1982).
2. O'Byrne, S.M. and Blaner, W.S. Retinol and retinyl esters: Biochemistry and physiology. *J. Lipid. Res.* **54(7)**, 1731-1743 (2013).
3. Ibrahim, T., El Rouby, M.N., Al-Sherbini, el-S.A., *et al.* Photodecomposition, photomutagenicity and photocytotoxicity of retinyl palmitate under He-Ne laser photoirradiation and its effects on photodynamic therapy of cancer cells *in vitro*. *Photodiagnosis Photodyn. Ther.* **13**, 316-322 (2016).
4. Li, C., Imai, M., Yamasaki, M., *et al.* Effects of pre- and post-administration of vitamin A on the growth of refractory cancers in xenograft mice. *Biol. Pharm. Bull.* **40(4)**, 486-494 (2017).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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