



## Product Information

**Product ID** R1877  
**CAS No.** 68-26-8  
**Chemical Name** 3,7-Dimethyl-9-(2,6,6-trimethyl-1-cyclohexen-1-yl)-2,4,6,8-nonatetraen-1-ol

**Synonym** Alphasterol, Retinol, Avitol, Vitamin A

**Formula**  $C_{20}H_{30}O$   
**Formula Wt.** 286.45

**Melting Point**

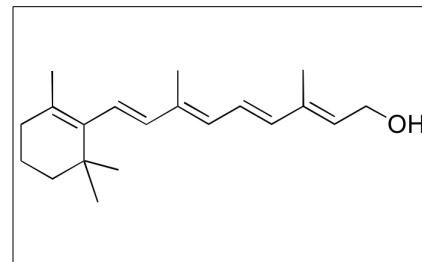
**Purity**  $\geq 98\%$

**Solubility** The solubility of all-trans-retinal in ethanol and DMF is approximately 25 mg/ml and approximately 16 mg/ml in DMSO.

**Store Temp**  $-20^{\circ}C$

**Ship Temp** Blue Ice

**Description** All-trans retinol is a diterpene component of vitamin A. This compound is an essential vitamin and is necessary for effective vision, skin health, and bone growth. Retinol and its metabolites bind retinoic acid receptors (RARs) and retinoid X receptors (RXRs), both of which have multiple isotypes and isoforms. During fetal development, retinol influences cellular differentiation in a variety of ways. Retinol also plays a role in cancer stem cell differentiation, mediated through ERK1/2 signaling. In the immune system, retinol appears to play a protective role in autoimmune diseases such as multiple sclerosis and encephalopathy, downregulating pro-inflammatory responses stimulated by Th1 and Th17 cells.



**Bulk quantities available upon request**

Product ID	Size
R1877	25 mg
R1877	100 mg
R1877	250 mg

**References** Friedman MD, Jeevan DS, Tobias M, et al. Targeting cancer stem cells in glioblastoma multiforme using mTOR inhibitors and the differentiating agent all-trans retinoic acid. *Oncol Rep.* 2013 Oct;30(4):1645-50. PMID: 23877261.

Farhangi MA, Keshavarz SA, Eshraghian M, et al. Vitamin a supplementation and serum Th1- and th2-associated cytokine response in women. *J Am Coll Nutr.* 2013 Aug;32(4):280-5. PMID: 24024773.

Sharma RB, Wang Q, Khillan JS. Amplification of tumor inducing putative cancer stem cells (CSCs) by vitamin A/retinol from mammary tumors. *Biochem Biophys Res Commun.* 2013 Jul 12;436(4):625-31. PMID: 23764401.

Zhan XX, Liu Y, Yang JF, et al. All-trans-retinoic acid ameliorates experimental allergic encephalomyelitis by affecting dendritic cell and monocyte development. *Immunology.* 2013 Apr;138(4):333-45. PMID: 23181531.

Duester G. Retinoic acid synthesis and signaling during early organogenesis. *Cell.* 2008 Sep 19;134(6):921-31. PMID: 18805086.

**Caution:** This product is intended for laboratory and research use only. It is not for human or drug use.