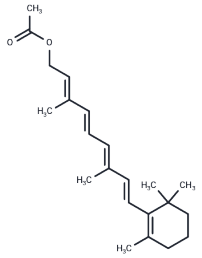
Data Sheet (Cat.No.T0685)

TargetMol

Retinyl acetate

Chemical Properties



CAS No. : 127-47-9

Formula: C22H32O2

Molecular Weight: 328.49

Storage: Store at low temperature
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Retinyl acetate (Vitamin A acetate) is a group of unsaturated nutritional hydrocarbons, that contains retinal, retinol, retinoic acid, and several provitamins A carotenoids, among which beta-carotene is the most important.
Targets(IC50)	Vitamin
In vitro	Vitamin A deficiency impairs innate immunity by impeding normal regeneration of mucosal barriers damaged by infection, and by diminishing the function of neutrophils, macrophages, and natural killer cells. Vitamin A is also required for adaptive immunity and plays a role in the development of T both-helper (Th) cells and B-cells. Vitamin A deficiency diminishes antibody-mediated responses directed by Th2 cells, although some aspects of Th1-mediated immunity are also diminished. [1]
In vivo	Vitamin A acetate (VAA) (fed on an otherwise conventional diet) responds to 105 semiallogeneic cells (a suboptimal dose) in a host-versus-graft (HvG) reaction in mice, whereas mice on a conventional diet do not. [2] Vitamin A acetate can bring a solid and long-lasting state of tolerance induced by the intravenous injection into newborn CBA mice of lymphoid cells from (CBA X C57BL/10ScSn) F1 hybrids to an end, the effect of which is to increase the proportion of the moiety of the T-cell population that produces IL-2. [3] Vitamin A acetate-supplemented diet develops a positive skin reaction to purified protein derivative of mycobacteria in High-dose Mycobacterium bovis-infected mice, and their spleen cells show an increased IL-2 production in vitro. [4]

Solubility Information

Solubility	Ethanol: 60 mg/mL (182.65 mM),Sonication is recommended. DMSO: 40 mg/mL (121.77 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (6.09 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.0442 mL	15.2212 mL	30.4423 mL
5 mM	0.6088 mL	3.0442 mL	6.0885 mL
10 mM	0.3044 mL	1.5221 mL	3.0442 mL
50 mM	0.0609 mL	0.3044 mL	0.6088 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Stephensen CB, et al. Annu Rev Nutr, 2001, 21, 167-192.
Malkovsky M, et al. Nature, 1983 Mar, 302(5906), 338-340.
Malkovsky M, et al. Proc Natl Acad Sci U S A, 1985, 82(2), 536-538.
Colizzi V, et al. Infect Immun, 1985, 48(2), 581-583.