

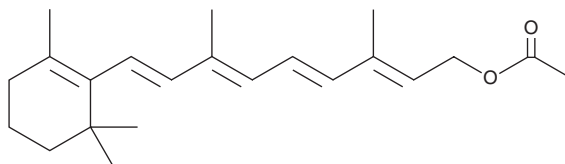
PRODUCT INFORMATION



Retinyl Acetate

Item No. 20242

CAS Registry No.: 127-47-9
Formal Name: retinol acetate
Synonyms: NSC 122045, NSC 122760, Ro 1-5275, Vitamin A Acetate
MF: $C_{22}H_{32}O_2$
FW: 328.5
Purity: $\geq 98\%$
UV/Vis.: λ_{max} : 326 nm
Supplied as: A semi-solid
Storage: $-20^{\circ}C$
Stability: ≥ 4 years
Special Conditions: Low melting



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

Laboratory Procedures

Retinyl acetate is supplied as a crystalline solid. A stock solution may be made by dissolving the retinyl acetate in the solvent of choice, which should be purged with an inert gas. Retinyl acetate is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of retinyl acetate in ethanol is approximately 16 mg/ml and approximately 5 mg/ml in DMSO and DMF.

Retinyl acetate is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, retinyl acetate should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Retinyl acetate has a solubility of approximately 0.3 mg/ml in a 1:3 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 acetate is a natural form of vitamin A (Item No. 20241).¹ It inhibits ascorbic acid- or ferrous sulfate-induced increases in malondialdehyde (MDA) levels in rat brain mitochondria when used at a concentration of 100 μM .² Retinyl acetate binds to retinol-binding protein ($K_d = 220$ nM for the human protein) and inhibits organic anion transporting polypeptide 1B1 (OATP1B1) and OATP1B3 in CHO cells expressing the human transporters ($K_s = 1.22$ and 3.89, respectively).^{3,4} It inhibits the formation of mammary adenocarcinomas induced by the polycyclic aromatic hydrocarbon 7,12-dimethylbenz[a]anthracene (DMBA; Item No. 30383) in rats when administered at a dose of 2.5 mg/animal.⁶ Retinyl acetate (352 $\mu mol/kg$) is teratogenic to rat fetuses when administered to pregnant dams.⁵ Formulations containing retinyl acetate have been used as skin-conditioning agents in cosmetics.

References

1. Gomis, D.B., Fernández, M.P., and Alvarez, M.D.G. *J. Chromatogr. A* **891**(1), 109-114 (2000).
2. Das, N.P. *J. Neurochem.* **52**(2), 585-588 (1989).
3. Cogan, U., Kopelman, M., Mokady, S., et al. *Eur. J. Biochem.* **65**(1), 71-78 (1976).
4. De Bruyn, T., van Westen, G.J.P., Ijzerman, A.P., et al. *Mol. Pharmacol.* **83**(6), 1257-1267 (2013).
5. Duitsman, P.K. and Olson, J.A. *Teratology* **53**(4), 237-244 (1996).
6. Moon, R.C., Grubbs, C.J., and Sporn, M.B. *Cancer Res.* **36**(7 PT 2), 2626-2630 (1976).

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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