PRODUCT INFORMATION

all-trans Retinoic Acid
Item No. 11017

CAS Registry No.: 302-79-4
Formal Name: (2E,4E,6E,8E)-3,7-dimethyl-9-(2,6,6-trimethylcyclohex-1-en-1-yl)nona-2,4,6,8-tetraenoic acid
Synonyms: atRA, NSC 122578, NSC 122758, RA, Vitamin A Acid
MF: C₂₀H₂₈O₂
FW: 300.4
Purity: ≥98%
UV/Vis.: \( \lambda_{\text{max}} \) = 350 nm
Supplied as: A crystalline 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

all-trans Retinoic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the all-trans retinoic acid in the solvent of choice. all-trans Retinoic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of all-trans retinoic acid in ethanol is approximately 0.5 mg/ml and approximately 20 mg/ml in DMSO and DMF.

Description

all-trans Retinoic acid is a metabolite of vitamin A and a ligand for retinoic acid receptors (RARs) with IC₅₀ values of 9, 3, and 10 nM for RARα, RARβ, and RARγ, respectively, in radioligand binding assays. It induces expression of a luciferase reporter in COS-7 cells expressing RARα, RARβ, or RARγ (EC₅₀ = 169, 9, and 2 nM, respectively), all-trans Retinoic acid (17 nmol) reduces papilloma formation induced by phorbol 12-myristate 13-acetate (TPA; Item No. 10008014) in mice. It reduces bile duct proliferation, hydroxyproline levels, and liver inflammation in a rat model of α-naphthylisothiocyanate-induced chronic cholestasis and reduces plasma levels of alkaline phosphatase and bile salts in the Mdr2⁻/⁻ mouse model of cholestasis. all-trans Retinoic acid also reduces hepatic fat accumulation, triglycerides, body weight, and serum glucose levels in mice with Western diet-induced obesity.

References