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ProductInformation

9-cis-Retinoic acid

Product Number **R 4643**
Storage Temperature -0 °C

Product Description
Molecular Formula: $C_{20}H_{28}O_2$
Molecular Weight: 300.4
CAS Number: 5300-03-8
Melting Point: 189-190 °C[1]
Extinction coefficient: E^{mM} = 36.5 (343 nm in methanol)[1]

This product is a high affinity ligand for the retinoid X receptor (RXR).[2] It is naturally produced via isomerization of all-trans retinoic acid.[3] This product has been shown to destabilize Vitamin D receptor-RXR heterodimer-DNA complexes.[4] It will also inhibit the growth of breast cancer cells and has been shown to down-regulate both estrogen receptor RNA and protein levels.[5]

A simple method for chemically synthesizing 9-cis-retinoic acid from 9-cis-retinal has been published.[6]

Precautions and Disclaimer
For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions
This product is soluble in chloroform (50 mg/ml). It is also reported to be soluble in DMSO (10 mM) and ethanol (25 mg/ml).

References
1. The Merck Index, 11th ed., Entry# 8167.
2. Heyman, R. A, et al., 9-cis Retinoic Acid is a High Affinity Ligand for the Retinoid X Receptor. Cell, **68(2)**, 397-406 (1992).
3. Liu, W., et al., Biosynthesis and Function of All-trans- and 9-cis-retinoic Acid in Parathyroid cells. Biochem. Biophys. Res. Commun., **229**, 922-929 (1996).
4. Cheskis, B., and Freedman, L. P., Ligand Modulates the Conversion of DNA-bound Vitamin D3 Receptor (VDR) Homodimers into VDR-retinoid X Receptor Heterodimers. Mol. Cell Biol., **14**, 3329-3338 (1994).
5. Rubin, M., et al., 9-Cis retinoic Acid Inhibits Growth of Breast Cancer Cells and Down-regulates Estrogen Receptor RNA and Protein. Cancer Res. **54**, 6549-6556 (1994).
6. Matsushima, Y., et al., Differentiation-inducing Activity of Retinoic Acid Isomers and Their Oxidized Analogs on Human Promyelocytic Leukemia HL-60 Cells. Biochem. Biophys. Res. Comm., **189**, 1136-1142 (1992).

CMH/RXR 10/02