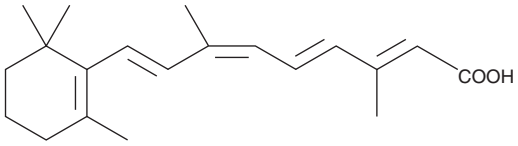
PRODUCT INFORMATION

9-*cis*-Retinoic Acid

Item No. 14587

CAS Registry No.: 5300-03-8
Formal Name: 9-*cis*-retinoic acid
Synonyms: Alitretinoin, NSC 659772, Panretin, 9-*cis*-RA
MF: $C_{20}H_{28}O_2$
FW: 300.4
Purity: ≥90%
UV/Vis.: λ_{max}: 42, 348, 357 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

9-*cis*-Retinoic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the 9-*cis*-retinoic acid in the solvent of choice. 9-*cis*-Retinoic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of 9-*cis*-retinoic acid in ethanol is approximately 0.5 mg/ml and approximately 20 mg/ml in DMSO and DMF.

9-*cis*-Retinoic acid is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

9-*cis*-Retinoic acid is a natural metabolite of vitamin A, derived from the intermediate all-*trans* retinoic acid (Item No. 11017).[1] It potently activates all isoforms of retinoic acid receptor (RAR) (K_i = 0.5-27 nM) as well as retinoid X receptor (RXR) isoforms (K_i = 3.8-12 nM).[2,3] RAR heterodimerizes with RXR, while RXR can homodimerize as well as heterodimerize with numerous partners in addition to RAR, thus allowing 9-*cis*-retinoic acid to evoke a wide range of effects.[1,4]

References

1. Kane, M.A. Analysis, occurrence, and function of 9-*cis*-retinoic acid. *Biochim. Biophys. Acta* **1821(1)**, 10-20 (2012).
2. Wong, M.F., Repa, J.J., Clagett-Dame, M., *et al.* Synthesis and receptor binding affinity of conformationally restricted retinoic acid analogues. *Bioorg. Med. Chem. Lett.* **7(17)**, 2313-2318 (1997).
3. Umemiya, H., Fukasawa, H., Ebisawa, M., *et al.* Regulation of retinoidal actions by diazepinylbenzoic acids. Retinoid synergists which activate the RXR-RAR heterodimers. *J. Med. Chem.* **40(26)**, 4222-4234 (1997).
4. Dawson, M.I. and Xia, Z. The retinoid X receptors and their ligands. *Biochim Biophys. Acta.* **1821(1)**, 21-56 (2012).

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