

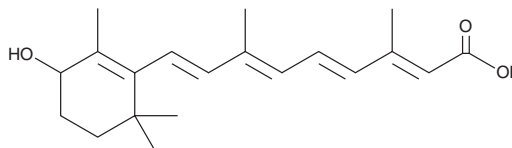
PRODUCT INFORMATION



all-trans-4-hydroxy Retinoic Acid

Item No. 21378

CAS Registry No.: 66592-72-1
Formal Name: 4-hydroxy-retinoic acid
Synonyms: 4-OH-atRA, 4-hydroxy RA
MF: C₂₀H₂₈O₃
FW: 316.4
Purity: ≥95%
Supplied as: A solid
Storage: -80°C
Stability: ≥2 years



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

Laboratory Procedures

all-trans-4-hydroxy Retinoic acid is supplied as a solid. A stock solution may be made by dissolving the all-trans-4-hydroxy retinoic acid in the solvent of choice, which should be purged with an inert gas. all-trans-4-hydroxy Retinoic acid is slightly soluble in chloroform and methanol.

Description

all-trans-4-hydroxy Retinoic acid is a metabolite of all-trans retinoic acid (Item No. 11017) formed by the cytochrome P450 (CYP) isoforms CYP26A1, B1, and C1.^{1,2} It binds to retinoic acid receptors (RARs) with a lower affinity than other all-trans retinoic acid metabolites (IC₅₀s = 606, 298, and 892 nM for RAR α , RAR β , and RAR γ , respectively, in a radioligand binding assay). It also transactivates RARs with a lower efficacy than other metabolites (EC₅₀s = 791, 64, and 94 nM for RAR α , RAR β , and RAR γ , respectively) but induces transcription of a reporter plasmid equipotently. all-trans-4-hydroxy Retinoic acid inhibits cell growth, halts the cell cycle in the G₁ phase, and induces differentiation of NB4 acute promyelocytic leukemia cells (EC₅₀ = 79.8 nM).³

References

1. Idrest, N., Marill, J., Flexor, M.A., *et al.* Activation of retinoic acid receptor-dependent transcription by all-trans-retinoic acid metabolites and isomers. *J. Biol. Chem.* **277**(25), 31491-31498 (2002).
2. Taimi, M., Helvig, C., Wisniewski, J., *et al.* A novel human cytochrome P450, CYP26C1, involved in metabolism of 9-cis and all-trans isomers of retinoic acid. *J. Biol. Chem.* **279**(1), 77-85 (2004).
3. Idres, N., Benoît, G., Flexor, M.A., *et al.* Granulocytic differentiation of human NB4 promyelocytic leukemia cells induced by all-trans retinoic acid metabolites. *Cancer Res.* **61**(2), 700-705 (2001).

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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