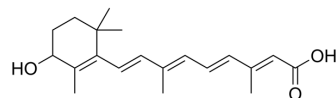


4-Hydroxyretinoic acid

| | |
|--------------------|---|
| Cat. No.: | HY-125904 |
| CAS No.: | 66592-72-1 |
| Molecular Formula: | C ₂₀ H ₂₈ O ₃ |
| Molecular Weight: | 316.43 |
| Target: | RAR/RXR |
| Pathway: | Metabolic Enzyme/Protease; Vitamin D Related/Nuclear Receptor |
| Storage: | -80°C |



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (316.03 mM; ultrasonic and warming and heat to 60°C)

| Concentration | Mass | | | |
|---------------|-----------|------------|------------|--|
| | 1 mg | 5 mg | 10 mg | |
| 1 mM | 3.1603 mL | 15.8013 mL | 31.6026 mL | |
| 5 mM | 0.6321 mL | 3.1603 mL | 6.3205 mL | |
| 10 mM | 0.3160 mL | 1.5801 mL | 3.1603 mL | |

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

4-Hydroxyretinoic acid (4-HRA) is a naturally occurring retinoid derivative with diverse biological effects. 4-Hydroxyretinoic acid is formed from retinol catalyzed by cytochrome P-450 isozyme(s), and is mainly metabolized by the liver in the body. 4-Hydroxyretinoic acid also serves as the substrate for human liver microsomal UDP-glucuronosyltransferase(s) and recombinant UGT2B7. 4-Hydroxyretinoic acid regulates gene expression and cell differentiation via binding to nuclear receptor RAR (Retinoic Acid Receptor), and activates RARs and RXR-alpha, to induce cancer cell apoptosis. In addition, 4-Hydroxyretinoic acid is also involved in various physiological processes such as immune regulation, neuroprotection, and anti-oxidation^{[1][2]}.

IC₅₀ & Target

UDP-glucuronosyltransferase, cytochrome P-450 isozyme^[1]; RAR, RXR-alpha^[2]

REFERENCES

[1]. Samokyszyn VM, et al. 4-hydroxyretinoic acid, a novel substrate for human liver microsomal UDP-glucuronosyltransferase(s) and recombinant UGT2B7. J Biol Chem. 2000 Mar 10;275(10):6908-14.

[2]. Duell EA, et al. Human skin levels of retinoic acid and cytochrome P-450-derived 4-hydroxyretinoic acid after topical application of retinoic acid in vivo compared to concentrations required to stimulate retinoic acid receptor-mediated transcription in vitro. J Clin Invest. 1992 Oct;90(4):1269-74.

Caution: Product has not been fully validated for medical applications. For research use only.

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