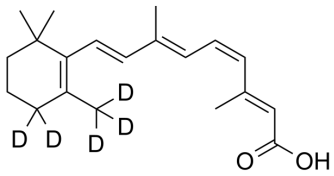
11-cis-Retinoic Acid-d5

Cat. No.:	HY-14649S2
Molecular Formula:	$C_{20}H_{23}D_5O_2$
Molecular Weight:	305.47
Target:	RAR/RXR; PPAR; Endogenous Metabolite; Autophagy
Pathway:	Metabolic Enzyme/Protease; Cell Cycle/DNA Damage; Autophagy
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	11-cis-Retinoic Acid-d5 is the deuterium labeled Retinoic acid. Retinoic acid is a metabolite of vitamin A that plays important roles in cell growth, differentiation, and organogenesis. Retinoic acid is a natural agonist of RAR nuclear receptors, with IC_{50}s of 14 nM for RARα/β/γ. Retinoic acid bind to PPARβ/δ with K_d of 17 nM. Retinoic acid acts as an inhibitor of transcription factor Nrf2 through activation of retinoic acid receptor alpha[1][2].
In Vitro	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.

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[3]. Kam RK, et al. Retinoic acid synthesis and functions in early embryonic development. Cell Biosci. 2012 Mar 22;2(1):11.

[4]. Shaw N, et al. Retinoic acid is a high affinity selective ligand for the peroxisome proliferator-activated receptor beta/delta. J Biol Chem. 2003 Oct 24;278(43):41589-92.

[5]. Apfel C, et al. A retinoic acid receptor alpha antagonist selectively counteracts retinoic acid effects. Proc Natl Acad Sci U S A. 1992 Aug 1;89(15):7129-33.

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[7]. Xiu Jun Wang, et al. Identification of retinoic acid as an inhibitor of transcription factor Nrf2 through activation of retinoic acid receptor alpha. Proc Natl Acad Sci U S A. 2007 Dec 4;104(49):19589-94.

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

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