Product Data Sheet

Chemical Properties

Product Name: 9-cis-Retinoic Acid
Cas No.: 5300-03-8
M.Wt: 300.44
Formula: C20H28O2

Chemical Name: (2E,4E,6Z,8E)-3,7-dimethyl-9-(2,6,6-trimethylcyclohex-1-en-1-yl)nona-2,4,6,8-tetraenoic acid
Canonical SMILES: CC1(C)(/C=C/C(C)=C\C=C\C(C)=C\C(O)=O)=C(C)CCC1

Solubility: ≤0.5mg/ml in ethanol; 20mg/ml in DMSO; 20mg/ml in dimethyl formamide

Storage: Store at -20°C

General tips: For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shopping Condition: Evaluation sample solution: ship with blue ice
All other available size: ship with RT, or blue ice upon request

Biological Activity

Targets: Others
Pathways: RAR/RXR

Description:
Ki: 0.5-27 nM for RAR; 3.8-12 nM for RXR

9-cis-Retinoic acid (9cRA) is a RAR and RXR activator.

Metabolism activates vitamin A into retinoic acid (RA), which controls physiological processes.
such as nervous system function, immune response, cell proliferation and differentiation, as well as reproduction. Much of the activity of RA is mediated via two subfamilies of nuclear receptors, retinoic acid receptor (RAR) and retinoid X receptor (RXR).

In vitro: The 9cRA effect in pancreatic β-cells line INS-1 832/13 led to a decreased expression of Mptn associated to a concomitant increase of miR-375. Moreover, in the breast cancer model, 9cRA showed different effect on both Mptn and miR-375 expression. Moreover, in INS-1 832/13, 3T3-L1 pre-adipocytes and MCF-7 but not in MDA-MB-231, the effect of 9cRA on Mptn gene expression and its miR was under the control of RARs and RXRs receptors [1].

In vivo: A chemoprevention study was conducted to evaluate the activity of 9cRA as an inhibitor of prostate carcinogenesis in male Wistar-Unilever rats. Results showed that continuous dietary administration of 9cRA reduced cancer incidence in the dorsolateral + anterior prostate. Similarly, 9cRA with same doses reduced the incidence of cancer in all accessory sex glands. Moreover, chronic dietary administration of 9cRA induced no gross or organ-specific toxicity and did not suppress group mean body weight gain [2].

Clinical trial: The impact of 9cRA on quality of life of alitretinoin in severe chronic hand eczema has been evaluated. At baseline, most patients had CHE characterized as severe by PGA (83 %). At last visit, 48 % of patients had a PGA response of clear/almost clear. Mean improvement in DLQI scores at week 24 was 58 % and 70 %. The overall incidence of AEs was low and similar in both groups [3].

Reference:

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.