Retinoic acid (GMP)

Cat. No.: HY-14649G

CAS No.: 302-79-4

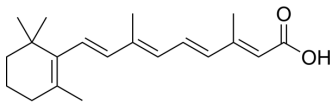
Molecular Formula: $C_{20}H_{28}O_2$

Molecular Weight: 300.44

Target: RAR/RXR

Pathway: Metabolic Enzyme/Protease; Vitamin D Related/Nuclear Receptor

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Retinoic acid (Vitamin A acid) (GMP) is Retinoic acid (HY-14649) produced by using GMP guidelines. GMP small molecules works appropriately as an auxiliary reagent for cell therapy manufacture. Retinoic acid is an agonist of RAR nuclear receptors[1][2][3][4][5][6].
In Vitro	Retinoic acid (GMP) time- and dose- dependently induces differentiation of EC cells and ES cells into specific cell types[1]. Retinoic acid (GMP) induces partial differentiation of F9 embryonal carcinoma cells into endoderm cells[2]. Retinoic acid (GMP) (100 nM; 2-8 d) promotes photoreceptor differentiation in early postnatal retinal cultures[3]. Retinoic acid (GMP) (0.1 μM; 10-12 d) induces human SH-SY5Y neuroblastoma cells differentiation with long cell processes[4]. Retinoic acid (GMP) (0-10 μM; 48 h) dose-dependently induces morphologic differentiation of LA-N-1 human neuroblastoma cells[5]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Retinoic acid (GMP) (0.3 μM; embryos are immersed in tank water containing retinoic acid) accelerates of rod differentiation is observed following 24 and 48 hours of application in zebrafish[6]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cell Res. 2022 Jun;32(6):513-529.
- Blood. 2022 Aug 19;blood.2022015668.
- Adv Sci (Weinh). 2022 Aug 28;e2203173.
- Adv Sci (Weinh). 2022 Jan 22;e2105568.
- Biomaterials. 2023 Jan;292:121945.

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REFERENCES

[1]. Rohwedel J, et al. Induction of cellular differentiation by retinoic acid in vitro. Cells Tissues Organs. 1999;165(3-4):190-202.

[2]. Sherman MI, et al. Differentiation of early mouse embryonic and teratocarcinoma cells in vitro: plasminogen activator production. Cancer Res.

[3]. Kelley MW, et al. Retinoic acid promotes differentiation of photoreceptors in vitro. Development. 1994 Aug;120(8):2091-102.

[4]. Påhlman S, et al. Retinoic acid-induced differentiation of cultured human neuroblastoma cells: a comparison with phorbolester-induced differentiation. Cell Differ. 1984 Jun;14(2):135-44.

[5]. Sidell N. Retinoic acid-induced growth inhibition and morphologic differentiation of human neuroblastoma cells in vitro. J Natl Cancer Inst. 1982 Apr;68(4):589-96.

[6]. Hyatt GA, et al. Retinoic acid alters photoreceptor development in vivo. Proc Natl Acad Sci U S A. 1996 Nov 12;93(23):13298-303.

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