

Small Molecules

9-cis Retinoic Acid

Retinoid pathway activator; Activates retinoic acid receptor (RAR) and retinoid X receptor (RXR)

Catalog # 72382
72384

5 mg
25 mg



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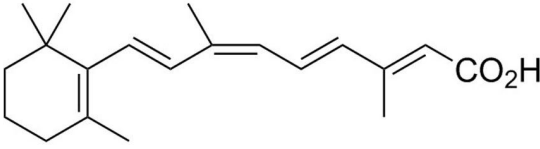
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Product Description

9-cis-Retinoic Acid is a natural metabolite of vitamin A, derived from the intermediate all-trans retinoic acid (Kane). It potently activates all isoforms of retinoic acid receptor (RAR; $K_i = 0.5 - 27 \text{ nM}$) as well as retinoid X receptor (RXR; $K_i = 3.8 - 12 \text{ nM}$) isoforms (Umemiya et al.; Wong et al.). RAR heterodimerizes with RXR, while RXR can homodimerize as well as heterodimerize with numerous partners in addition to RAR, thus allowing 9-cis-Retinoic Acid to evoke a wide range of effects (Dawson et al.; Kane).

Molecular Name:	9-cis Retinoic Acid
Alternative Names:	9-cis-retinoic acid; Aliretinoin; NSC 659772; Panretin
CAS Number:	5300-03-8
Chemical Formula:	$C_{20}H_{28}O_2$
Molecular Weight:	300.4 g/mol
Purity:	$\geq 95\%$
Chemical Name:	(2E,4E,6Z,8E)-3,7-dimethyl-9-(2,6,6-trimethylcyclohexen-1-yl)nona-2,4,6,8-tetraenoic acid
Structure:	

Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at -20°C as supplied. Protect from prolonged exposure to light. For product expiry date, please contact techsupport@stemcell.com.
Solubility:	<ul style="list-style-type: none">· Absolute ethanol $\leq 1.6 \text{ mM}$· DMSO $\leq 65 \text{ mM}$ For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 333 μL of DMSO.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C . Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

Published Applications

DIFFERENTIATION

- Increases the number of neurons derived from rat neural stem cell cultures (Laeng et al.).
- Promotes oligodendrocyte precursor cell differentiation and myelination in cultured cells and mouse cerebellar slices (Huang et al.).
- Induces formation of pancreatic ducts, but not acini, in embryonic mouse pancreas grown in collagen gel (Kadison et al.; Kobayashi et al.).
- Enhances BMP9-induced osteogenic differentiation of mesenchymal progenitor cells, in vitro and in vivo (Zhang et al.).
- Induces myogenic differentiation of C2C12 myoblast progenitor cells (Zhu et al.).

CANCER RESEARCH

- Inhibits proliferation of Epstein-Barr virus-infected lymphoblastoid cell lines (Pomponi et al.).
- Inhibits growth of cultured human gastric cancer cells (Naka et al.).
- Inhibits spontaneous proliferation and CD40-induced growth in primary mantle cell lymphoma cells (Guidoboni et al.).

References

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