Small Molecules

CD437

Retinoid pathway activator; Activates retinoic acid receptor (RAR)

Catalog #	72722	5 mg
	72724	25 mg

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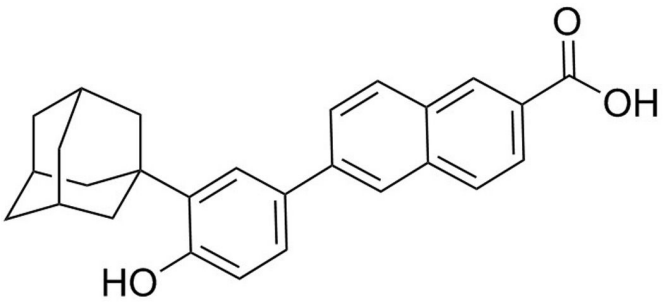
Product Description

CD437 is the prototypical adamantyl arotinoid of the retinoid-related molecule family that acts as a selective agonist of retinoic acid receptor (RAR)γ (Kd = 6.5 µM, 2.5 µM, and 77 nM for RARα, β, and γ, respectively; Bernard et al.; Pérez-Rodríguez et al.).

Molecular Name:	CD437
Alternative Names:	AHPN
CAS Number:	125316-60-1
Chemical Formula:	$C_{27}H_{26}O_3$
Molecular Weight:	398.5 g/mol
Purity:	≥ 95%
Chemical Name:	6-(4-Hydroxy-3-tricyclo[3.3.1.13,7]dec-1-ylphenyl)-2-naphthalenecarboxylic acid
Structure:	



Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at -20°C as supplied. Protect from prolonged exposure to light. Stable as supplied for 12 months from date of receipt.
Solubility:	· Absolute ethanol ≤ 2.5 mM · DMSO ≤ 40 mM For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 251 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

REPROGRAMMING
· Increases speed and number of pre-induced pluripotent stem cell colonies generated from mouse embryonic fibroblasts transfected with Oct4, Sox2, c-Myc, and Klf4 (Wang et al.).
CANCER RESEARCH
· Induces cell cycle arrest and apoptosis in a variety of cancer cells, including melanoma, breast, lung, and prostate cancer cells (Fontana & Rishi; Jin et al.; Li et al.; Valli et al.).
· Decreases mRNA expression of squamous differentiation markers cytokeratin 1, involucrin, and SPR1 in the human head and neck squamous cell carcinoma cell line UMSCC22B (Sun et al.).

References

Bernard BA et al. (1992) Identification of synthetic retinoids with selectivity for human nuclear retinoic acid receptor gamma. Biochem Biophys Res Commun 186(2): 977–83.
Fontana JA & Rishi AK. (2002) Classical and novel retinoids: their targets in cancer therapy. Leukemia 16(4): 463–72.
Jin F et al. (2005) Activation of nuclear factor-kappaB contributes to induction of death receptors and apoptosis by the synthetic retinoid CD437 in DU145 human prostate cancer cells. Cancer Res 65(14): 6354–63.
Li Y et al. (1998) Molecular determinants of AHPN (CD437)-induced growth arrest and apoptosis in human lung cancer cell lines. Mol Cell Biol 18(8): 4719–31.
Pérez-Rodríguez S et al. (2009) Highly twisted adamantyl arotinoids: synthesis, antiproliferative effects and RXR transactivation profiles. Eur J Med Chem 44(6): 2434–46.
Sun SY et al. (2000) Dual mechanisms of action of the retinoid CD437: nuclear retinoic acid receptor-mediated suppression of squamous differentiation and receptor-independent induction of apoptosis in UMSCC22B human head and neck squamous cell carcinoma cells. Mol Pharmacol 58(3): 508–14.
Valli C et al. (2008) Atypical retinoids ST1926 and CD437 are S-phase-specific agents causing DNA double-strand breaks: significance for the cytotoxic and antiproliferative activity. Mol Cancer Ther 7(9): 2941–54.
Wang W et al. (2011) Rapid and efficient reprogramming of somatic cells to induced pluripotent stem cells by retinoic acid receptor gamma and liver receptor homolog 1. Proc Natl Acad Sci USA 108(45): 18283–8.

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