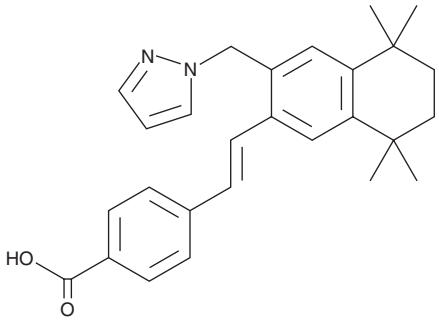
PRODUCT INFORMATION

Palovarotene

Item No. 28460

CAS Registry No.:	410528-02-8
Formal Name:	4-[(1E)-2-[5,6,7,8-tetrahydro-5,5,8,8-tetramethyl-3-(1H-pyrazol-1-ylmethyl)-2-naphthalenyl]ethenyl]-benzoic acid
Synonym:	Ro 3300074
MF:	$C_{27}H_{30}N_2O_2$
FW:	414.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 321 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Palovarotene is supplied as a solid. A stock solution may be made by dissolving the palovarotene in the solvent of choice, which should be purged with an inert gas. Palovarotene is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of palovarotene in these solvents is approximately 3, 20, and 25 mg/ml, respectively.

Palovarotene is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, palovarotene should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Palovarotene has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Palovarotene an orally bioavailable retinoic acid receptor γ (RARγ) agonist.[1] It increases retinoic acid response element (RARE) activity and decreases NF-κB activity induced by IL-1β in primary mouse stromal cells in reporter assays when used at a concentration of 60 nM.[2] Palovarotene (10 nM) inhibits activin A-induced chondrogenic and osteogenic differentiation of mouse fibro/adipogenic progenitors (FAPs) expressing a mutated form of human activin A receptor type I (*ACVR1*^{R206H}).[3] It inhibits heterotopic ossification and preserves limb movement and growth in a *ACVR1*^{R206H} fibrodysplasia ossificans progressiva (FOP) mouse model.[4] Palovarotene (1 mg/kg per day for 14 days) decreases heterotopic ossification by 50 to 60% in a rat model of traumatic blast injury.[5]

References

1. Hind, M. and Stinchcombe, S. *Curr. Opin. Investig. Drugs* **10(11)**, 1243-1250 (2009).
2. Sinha, S., Uchibe, K., Usami, Y., *et al. Bone* **90**, 59-68 (2016).
3. Lees-Shepard, J.B., Nicholas, S.-A.E., Stoessel, S.J., *et al. Elife* **7**, e40814 (2018).
4. Chakkalakal, S.A., Uchibe, K., Convente, M.R., *et al. J. Bone Miner. Res.* **31(9)**, 1666-1675 (2016).
5. Pavey, G.J., Qureshi, A.T., Tomasino, A.M., *et al. Bone* **90**, 159-167 (2016).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM