

PRODUCT INFORMATION

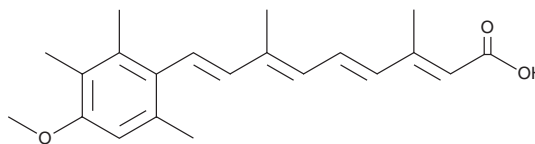


Acitretin

Item No. 20853

CAS Registry No.: 55079-83-9
Formal Name: (2E,4E,6E,8E)-9-(4-methoxy-2,3,6-trimethylphenyl)-3,7-dimethyl-2,4,6,8-nonatetraenoic acid
Synonyms: all-trans Acitretin, Ro 10-1670, Ro 10-1670/000

MF: C₂₁H₂₆O₃
FW: 326.4
Purity: ≥98%
UV/Vis.: λ_{max}: 357 nm
Supplied as: A crystalline 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

Acitretin is supplied as a crystalline solid. A stock solution may be made by dissolving the acitretin in the solvent of choice. Acitretin is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of acitretin in these solvents is approximately 1 and 5 mg/ml, respectively.

Acitretin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, acitretin should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Acitretin has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Acitretin is a retinoid and an active metabolite of the retinoid etretinate (Item No. 19878) that has antiproliferative activities.^{1,2} It binds to cellular retinoic acid binding protein I (CRABP-I) and CRABP-II (K_ds = 3 and 15 nM, respectively, for the mouse recombinant proteins) but has low affinity for human recombinant retinoic acid receptor-retinoid X receptor (RAR-RXR) heterocomplexes.^{3,4} Acitretin inhibits proliferation (IC₅₀ = 6.6 μM) and suppresses TNF-α- and IFN-γ-induced protein levels of STAT1, NF-κB, and RANTES in HaCaT keratinocytes when used at concentrations up to 50 μM.⁵ It inhibits proliferation of HL-60, SCC4, SCC15, and A431, but not MCF-7, cancer cells, when used at a concentration of 30 μM.² Acitretin (20 μg per mouse) decreases the severity of psoriatic-like skin lesions in K14-VEGF transgenic mice.¹ Formulations containing acitretin have been used in the treatment of psoriasis.

References

1. An, J., Zhang, D., Wu, J., et al. *Pharmacol. Res.* **121**, 158-168 (2017).
2. Frey, J.R., Peck, R., and Bollag, W. *Cancer Lett.* **57(3)**, 223-227 (1991).
3. Norris, A.W., Cheng, L., Giguère, V., et al. *Biochim. Biophys. Acta.* **1209(1)**, 10-18 (1994).
4. Tian, K., Norris, A.W., Lin, C.L., et al. *Biochemistry* **36(19)**, 5669-5676 (1997).
5. Zhang, M., Zhu, L., Feng, Y., et al. *Arch. Dermatol. Res.* **300(10)**, 575-581 (2008).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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