

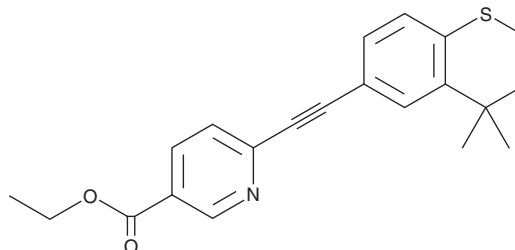
PRODUCT INFORMATION



Tazarotene

Item No. 23559

CAS Registry No.: 118292-40-3
Formal Name: 6-[2-(3,4-dihydro-4,4-dimethyl-2H-1-benzothiopyran-6-yl)ethynyl]-3-pyridinecarboxylic acid, ethyl ester
Synonym: AGN 190168
MF: C₂₁H₂₁NO₂S
FW: 351.5
Purity: ≥98%
UV/Vis.: λ_{max}: 259, 352 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

Tazarotene is supplied as a crystalline solid. A stock solution may be made by dissolving the tazarotene in the solvent of choice. Tazarotene is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of tazarotene in these solvents is approximately 30 mg/ml.

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

Description

Tazarotene is a retinoid prodrug of tazarotenic acid (Item No. 21367).¹ It is metabolized by esterases *in vivo* to its active free acid form. Tazarotene (1 μM) inhibits proliferation of and collagen synthesis by human dermal fibroblasts *in vitro*.² It also downregulates markers of keratinocyte differentiation, keratinocyte proliferation, and inflammation and upregulates tazarotene-induced gene 1 (TIG1) and TIG2 in patient-derived psoriatic lesion samples following topical administration.³ Tazarotene (0.1% per day, topical) induces complete reduction in skin utricle diameter in the Rhino mouse, which is a model used to test retinoid activity because its skin contains keratinized pilosebaceous structures.⁴ It also decreases basal cell carcinoma number and size in a *Ptch1*^{+/−} mouse model of ultraviolet- or ionizing radiation-induced skin cancer when administered topically at a dose of 0.1% per day.⁵ Formulations containing tazarotene have been used in the treatment of psoriasis, acne, and sun-damaged skin.

References

1. Chandraratna, R.A. Tazarotene-first of a new generation of receptor-selective retinoids. *Br. J. Dermatol.* **135**(Suppl 49), 18-25 (1996).
2. Ogawa, A., Maeguchi, M., Uchida, Y., *et al.* Effect of tazarotene, an acetylenic retinoid, on human dermal fibroblast. *Jpn. J. Pharmacol.* **76**(3), 317-319 (1998).
3. Duvic, M., Nagpal, S., Asano, A.T., *et al.* Molecular mechanisms of tazarotene action in psoriasis. *J. Am. Acad. Dermatol.* **37**(2 Pt 3), S18-S24 (1997).
4. Hsia, E.Y., Johnston, M.J., Houlden, R.J., *et al.* Effects of topically applied acitretin in reconstructed human epidermis and the rhino mouse. *J. Invest. Dermatol.* **128**(1), 125-130 (2008).
5. So, P.-L., Lee, K., Herbert, J., *et al.* Topical tazarotene chemoprevention reduces basal cell carcinoma number and size in *Ptch1*^{+/−} mice exposed to ultraviolet or ionizing radiation. *Cancer Res.* **64**(13), 4385-4389 (2004).

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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