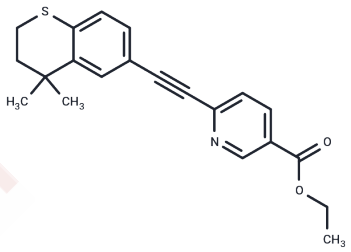
Data Sheet (Cat.No.T6696)

TargetMol

Tazarotene

Chemical Properties



CAS No. : 118292-40-3

Formula: C21H21NO2S

Molecular Weight: 351.46

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Tazarotene (Zorac) is a synthetic, topical retinoid. Tazarotene induces the expression of tazarotene-induced gene 3 (TIG3), a tumor suppressor gene. In psoriasis, tazarotene normalizes abnormal keratinocyte differentiation and reduces their hyperproliferation.
Targets(IC50)	Retinoid Receptor,Autophagy
In vitro	Tazarotene causes ERK activation, RB tumor suppressor protein hypophosphorylation, G0 arrest, and myeloid differentiation in HL-60 human myeloblastic leukemia cells. Tazarotene could propel either early or late portions of the period leading to differentiation and G0 arrest and is interchangeable with an RARalpha-selective ligand. [1] Tazarotene therapy regulates gene transcription via interaction with specific nuclear retinoic acid receptors (RARs), thereby modulating the three key pathogenic factors in psoriasis. [2] Tazarotene inhibits the proliferation of fibroblasts and synthesis of DNA and collagen. [3] Tazarotene down-regulates markers of keratinocyte differentiation, keratinocyte proliferation, and inflammation. Tazarotene also up-regulates three novel genes TIG-1 (tazarotene-induced gene-1), TIG-2, and TIG-3, which may mediate an antiproliferative effect. [4] Tazarotene causes growth suppression in retinoid-responsive breast cancer cell lines by up-regulating TIG3. [5]
In vivo	Tazarotene treatment reduces the number and size of microscopic basal cell carcinomas (BCCs) in UV-treated Ptch1+/? mice. Tazarotene treatment reduces the number and size of microscopic basal cell carcinomas (BCCs) in ionizing radiation-treated Ptch1+/? mice. [5]

Solubility Information

Solubility	DMSO: 33.33 mg/mL (94.83 mM),Sonication is recommended. Ethanol: 17.6 mg/mL (50.08 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (5.69 mM),Sonication is recommended. 10% DMSO+90% Saline: 3.33 mg/mL (9.47 mM),Suspension. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.8453 mL	14.2264 mL	28.4527 mL
5 mM	0.5691 mL	2.8453 mL	5.6905 mL
10 mM	0.2845 mL	1.4226 mL	2.8453 mL
50 mM	0.0569 mL	0.2845 mL	0.5691 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Yen A, et al. Mol Pharmacol, 2004, 66(6), 1727-1737.
Zeng X, Zhu S, Lu W, et al. Target identification among known drugs by deep learning from heterogeneous networks. Chemical Science. 2020, 11(7): 1775-1797.
Duvic M, et al. Expert Opin Investig Drugs, 1997, 6(10), 1537-1551.
Ogawa A, et al. Jpn J Pharmacol, 1998, 76(3), 317-319.
Duvic M, et al. J Am Acad Dermatol, 1997, 37(2 Pt 3), S18-24.
So PL, et al. Cancer Res, 2004, 64(13), 4385-4389.
Zeng X, Zhu S, Lu W, et al. Target identification among known drugs by deep learning from heterogeneous networks[J]. Chemical Science. 2020, 11(7): 1775-1797.