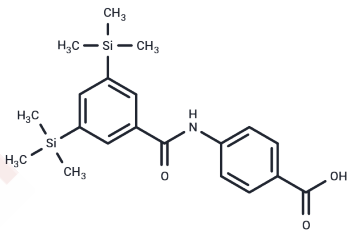
Data Sheet (Cat.No.T21314)

TargetMol

Amsilarotene

Chemical Properties



CAS No. : 125973-56-0

Formula: C20H27NO3Si2

Molecular Weight: 385.6

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	Amsilarotene (TAC101) inhibits the phosphorylation of retinoblastoma gene product (RB) and increases the presence of 2 cyclin-dependent kinases (CDK) inhibitors resulting in cell cycle arrest. This agent also causes a cytotoxic decline in the thymidylate synthase and cyclin A expression.
Targets(IC50)	Apoptosis,Retinoid Receptor,CDK
In vitro	Preclinical models have shown that Amsilarotene(4-[3,5-bis(trimethylsilyl) benzamide] benzoic acid), an oral synthetic retinoid, has antitumor activity in hepatocellular carcinoma (HCC).
In vivo	We conducted a phase I study in Japanese patients with advanced HCC to examine the pharmacokinetics, recommended dose, safety, and efficacy of Amsilarotene. The administered dose of Amsilarotene was 10 mg/day in four patients (level 1), 20 mg/day in six (level 2), and 30 mg/day in three (level 3). There was no dose-limiting toxicity at level 1. Only one patient each had dose-limiting toxicity at level 2 (grade 2 fatigue, recovery requiring eight or more consecutive days of rest) and at level 3 (grade 3 splenic vein thrombosis). Level 3 (30 mg/day) was considered the maximum tolerated dose and 20 mg/day the recommended dose by a panel of medical experts, placing maximum emphasis on safety. The most frequent adverse events were fatigue, headache, and dermal symptoms such as rash. Pharmacokinetic parameters in Japanese patients with HCC were similar to those in patients in the United States, most of whom were Caucasian. Although no patient had a complete or partial response, the disease control rate was 38.5%. In conclusion, the recommended dose of Amsilarotene for patients with HCC is 20 mg/day. Amsilarotene had an acceptable toxicity profile, warranting further evaluation in clinical trials.

Solubility Information

Solubility	DMSO: 60 mg/mL (155.6 mM),Sonication is recommended. H2O: Insoluble, (< 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 (5.19 mM),Sonication is recommended. *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*

In vivo Formulation	*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	2.5934 mL	12.9668 mL	25.9336 mL
5 mM	0.5187 mL	2.5934 mL	5.1867 mL
10 mM	0.2593 mL	1.2967 mL	2.5934 mL
50 mM	0.0519 mL	0.2593 mL	0.5187 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

Okusaka T, Ueno H, Ikeda M, Takezako Y, Morizane C. Phase I study of TAC-101, an oral synthetic retinoid, in Japanese patients with advanced hepatocellular carcinoma. Cancer Sci. 2012 Aug;103(8):1524-30. doi: 10.1111/j.1349-7006.2012.02334.x. Epub 2012 Jun 18. PubMed PMID: 22587457.

Nakayama Y, Inoue Y, Minagawa N, Onitsuka K, Nagata J, Shibao K, Hirata K, Sako T, Nagata N, Yamaguchi K. Chemopreventive effect of 4-[3,5-Bis(trimethylsilyl) benzamido] benzoic acid (TAC-101) on MNU-induced colon carcinogenesis in a rat model. Anticancer Res. 2009 Jun;29(6):2059-65. PubMed PMID: 19528465.

Eshima K, Fukaya S, Sugimoto A, Mori T, Yokoi H, Yamamoto Y, Sugiura S, Honda S, Masuko N, Murakami K, Yamasaki Y, Kagechika H. Contribution of AP-1 interference induced by TAC-101 to tumor growth suppression in a hepatocellular carcinoma model. Tumour Biol. 2009;30(1):1-7. doi: 10.1159/000189712. Epub 2009 Jan 12. PubMed PMID: 19142034.

Higginbotham KB, Lozano R, Brown T, Patt YZ, Arima T, Abbruzzese JL, Thomas MB. A phase I/II trial of TAC-101, an oral synthetic retinoid, in patients with advanced hepatocellular carcinoma. J Cancer Res Clin Oncol. 2008 Dec;134(12):1325-35. doi: 10.1007/s00432-008-0406-2. Epub 2008 May 27. PubMed PMID: 18504614.