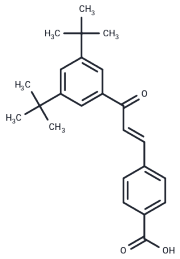
Data Sheet (Cat.No.T14946)

TargetMol

Ch55

Chemical Properties



CAS No. : 110368-33-7

Formula: C24H28O3

Molecular Weight: 364.48

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	Ch55 (3,5-Di-tert-butylchalcone) is an effective inducer of the differentiation of HL60 cells (EC50 = 200 nM) and shows high affinity with RAR-α and RAR-β receptors. Ch55 can be used in studies about cancer.
Targets(IC50)	Retinoid Receptor
In vitro	In rabbit tracheal epithelial cells, Ch55 inhibits type I transglutaminase activity (EC50 = 0.02 nM) and increases cholesterol sulfate levels (EC50 = 0.03 nM) thereby inhibiting squamous cell differentiation. Ch55 inhibits the induction of ornithine decarboxylase activity in 3T6 fibroblasts (EC50 = 1 nM) and induces cell differentiation of embryonic carcinoma F9 cells and melanoma S91 cells (EC50 = 0.26 and 0.5 nM). Ch55 shows a low affinity for cellular retinoic acid binding protein[1].

Solubility Information

Solubility	DMSO: 125 mg/mL (342.95 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2 mg/mL (5.49 mM),Sonication is recommended. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 10 mg/mL (27.44 mM),Solution. 10% DMSO+90% Saline: < 10 mg/mL (27.44 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. *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	2.7436 mL	13.7182 mL	27.4363 mL
5 mM	0.5487 mL	2.7436 mL	5.4873 mL
10 mM	0.2744 mL	1.3718 mL	2.7436 mL
50 mM	0.0549 mL	0.2744 mL	0.5487 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

Jetten AM, et al. New benzoic acid derivatives with retinoid activity: lack of direct correlation between biological activity and binding to cellular retinoic acid binding protein. Cancer Res. 1987 Jul 1;47(13):3523-7.
Li J, Bai Y, Liu Y, et al.Transcriptome-based chemical screens identify CDK8 as a common barrier in multiple cell reprogramming systems.Cell Reports.2023, 42(6).
Takahashi N, et al. Induction of differentiation and covalent binding to proteins by the synthetic retinoids Ch55 and Am80. Arch Biochem Biophys. 1994 Oct;314(1):82-9.