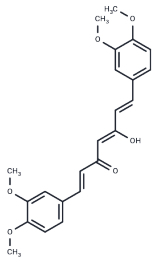
Data Sheet (Cat.No.TQ0214)

TargetMol

Dimethylcurcumin

Chemical Properties



CAS No. : 52328-98-0

Formula: C23H24O6

Molecular Weight: 396.43

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	Dimethylcurcumin (ASC-J9) (ASC-J9) is an androgen receptor degradation enhancer. It effectively suppresses castration-resistant prostate cancer cell proliferation and invasion.
Targets(IC50)	Androgen Receptor
In vitro	Dimethylcurcumin is able to degrade fAR and AR3 in a dose-dependent manner in various human PCa cells. Dimethylcurcumin can also effectively suppress AR-targeted genes in CWR22Rv1-fARKD cells. Dimethylcurcumin (5 or 10 μM) significantly suppresses the DHT-induced cell growth in all three PCa cell lines. Dimethylcurcumin suppresses AR-targeted genes and cell growth by the degradation of fAR and ectopic AR3 in C81 and C4-2 cells [1]. ASC-J9 reduces the AR aggregated AR-112Q in cells. Dimethylcurcumin suppresses the aggregation of AR-112Q in SBMA PC12/AR-112Q cells [2].
In vivo	Dimethylcurcumin (75 mg/kg, i.p.) degrades both fAR and AR3 in the xenografted tumors in vivo and ASC-J9-treated tumors have significantly decreased Ki67-positive cells [1]. Dimethylcurcumin (50 mg/kg every 48 h, i.p.) substantially ameliorates the SBMA symptoms in AR-97Q mice and ameliorates neuromuscular pathological findings [2]. ASC-J9-treated mice show significantly smaller prostate tumor sizes when compared with those receiving classic ADT/castration with little serum androgen [3].
Cell Research	For the cell survival assay, the PC12/AR-112Q and PC12/AR-10Q cells are cultured as described previously and incubated cells in the presence of 10 μg/mL doxycycline for 24 h. Then the cells are treated with a vehicle, 5 μM Dimethylcurcumin or 10 μM Dimethylcurcumin, along with 1 nM DHT, and determined cell viability using Trypan blue staining at specific time intervals [2].
Animal Research	CWR22Rv1 cells (1×10^6 cells per site) are injected into both anterior prostates of the castrated nude mice after 2 weeks of implantation. The mice were randomly divided into two groups (four mice/eight tumors each group) and either receive 75 mg/kg Dimethylcurcumin intraperitoneal injection or vehicle control every other day. After 4 weeks of treatment, all mice are killed to examine the tumor growth. Body weights and mice activity are measured weekly [1].

Solubility Information

Solubility	DMSO: 62.5 mg/mL (157.66 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 (5.05 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 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	2.5225 mL	12.6126 mL	25.2251 mL
5 mM	0.5045 mL	2.5225 mL	5.045 mL
10 mM	0.2523 mL	1.2613 mL	2.5225 mL
50 mM	0.0505 mL	0.2523 mL	0.5045 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

Yamashita S, et al. ASC-J9 suppresses castration-resistant prostate cancer growth through degradation of full-length and splice variant androgen receptors. Neoplasia. 2012 Jan;14(1):74-83.

Yang Z, et al. ASC-J9 ameliorates spinal and bulbar muscular atrophy phenotype via degradation of androgen receptor. Nat Med. 2007 Mar;13(3):348-53.

Lee SO, et al. New therapy targeting differential androgen receptor signaling in prostate cancer stem/progenitor vs non-stem/progenitor cells. J Mol Cell Biol. 2012 Jul 24.

Ma W, et al. Targeting androgen receptor with ASC-J9 attenuates cardiac injury and dysfunction in experimental autoimmune myocarditis by reducing M1-like macrophage. Biochem Biophys Res Commun. 2017 Apr 15;485(4):746-752. doi: 10.1016/j.bbrc.2017.02.123. Epub 2017 Feb 27.