Dimethylcurcumin

Cat. No.: HY-15194
CAS No.: 52328-98-0
Molecular Formula: C_{23}H_{24}O_{6}
Molecular Weight: 396.43
Target: Androgen Receptor
Pathway: Others
Storage: Powder -20°C 3 years
        4°C 2 years
        In solvent -80°C 6 months
        -20°C 1 month

**SOLVENT & SOLUBILITY**

In Vitro

DMSO : ≥ 50 mg/mL (126.13 mM)
H_{2}O : < 0.1 mg/mL (insoluble)
* "≥" means soluble, but saturation unknown.

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>2.5225 mL</td>
<td>12.6126 mL</td>
<td>25.2251 mL</td>
<td></td>
</tr>
<tr>
<td>5 mM</td>
<td>0.5045 mL</td>
<td>2.5225 mL</td>
<td>5.0450 mL</td>
<td></td>
</tr>
<tr>
<td>10 mM</td>
<td>0.2523 mL</td>
<td>1.2613 mL</td>
<td>2.5225 mL</td>
<td></td>
</tr>
</tbody>
</table>

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.17 mg/mL (5.47 mM); Clear solution

**BIOLOGICAL ACTIVITY**

Description

Dimethylcurcumin (ASC-J9) is an androgen receptor degradation enhancer that effectively suppresses castration resistant prostate cancer cell proliferation and invasion.

In Vitro

Dimethylcurcumin (ASC-J9) is able to degrade fAR and AR3 in a dose-dependent manner in various human PCa cells. Dimethylcurcumin (ASC-J9) can also effectively suppress AR-targeted genes in CWR22Rv1-fARKD cells. Dimethylcurcumin (ASC-J9) (5 or 10 µM) significantly suppresses the DHT-induced cell growth in all three PCa cell lines. Dimethylcurcumin (ASC-J9) suppresses AR-targeted genes and cell growth by degradation of fAR and ectopic AR3 in C81 and C4-2 cells\[1\]. Dimethylcurcumin (ASC-J9) selectively promotes AR degradation by disrupting the interaction between AR and AR coregulators. ASC-J9 reduces the AR aggregated AR-112Q in cells. Dimethylcurcumin
(ASC-J9) suppresses the aggregation of AR-112Q in SBMA PC12/AR-112Q cells\(^2\).

### In Vivo

Dimethylcurcumin (ASC-J9) (75 mg/kg, i.p.) degrades both fAR and AR3 in the xenografted tumors in vivo, and SC-J9-treated tumors has significantly decreased Ki67-positive cells\(^1\). Dimethylcurcumin (ASC-J9) (50 mg/kg every 48 h, i.p.) substantially ameliorates the SBMA symptoms in AR-97Q mice, and ameliorates neuromuscular pathological findings. The Dimethylcurcumin (ASC-J9)-treated SBMA mice have relatively normal serum testosterone concentrations\(^2\). ASC-J9-treated mice show significantly smaller prostate tumor sizes when compared with those receiving classic ADT/castration with little serum androgen\(^3\).

### PROTOCOL

#### Cell Assay \(^2\)

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 \(\mu\)g/mL doxycycline for 24 h. Then the cells are treated with vehicle, 5 \(\mu\)M Dimethylcurcumin (ASC-J9) or 10 \(\mu\)M Dimethylcurcumin (ASC-J9), along with 1 nM DHT, and determined cell viability using Trypan blue staining at specific time intervals.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### Animal Administration \(^1\)

CWR22Rv1 cells (1×10\(^6\) cells per site) are injected into both anterior prostates of castrated nude mouse after 2 weeks of implantation. The mice are randomly divided into two groups (four mice/eight tumors each group) and either receives 75 mg/kg Dimethylcurcumin (ASC-J9) 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.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### CUSTOMER VALIDATION


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### REFERENCES


Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898       Fax: 609-228-5909       E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA