Brassinolide

Cat. No.: A3265
CAS No.: 72962-43-7
Formula: C28H48O6
M.Wt: 480.68
Synonyms: 24-Epibrassinolide, Brassin lactone
Target: Apoptosis
Pathway: Apoptosis Inducers
Storage: Store at -20°C

In Vitro

Preparing Stock Solutions

<table>
<thead>
<tr>
<th>Mass</th>
<th>1mg</th>
<th>5mg</th>
<th>10mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent Concentration</td>
<td>1 mM</td>
<td>2.0804 mL</td>
<td>10.4019 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.4161 mL</td>
<td>2.0804 mL</td>
<td>4.1608 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.2080 mL</td>
<td>1.0402 mL</td>
<td>2.0804 mL</td>
</tr>
</tbody>
</table>

Solvent & Solubility

>48.1 mg/mL in DMSO with gentle warming; insoluble in H2O; >52.3 mg/mL in EtOH with gentle warming and ultrasonic

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

Biological Activity

Short Summary: Plant growth regulator

IC₅₀ & Target

Cell Viability Assay

Cell Line: Human prostate cancer PC-3 cell
Preparation method: The solubility of this compound in DMSO is >24.1mg/mL. General tips for obtaining a higher concentration: Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
Reacting conditions: 10, 20 and 40 μM; 12, 24 and 36 h

Applications: Brassinolide induced a time and concentration-dependent cytotoxicity in PC-3 cells. Brassinolide (10, 20 and 40 μM, 12 h) induced a concentration-dependent increase in the apoptotic rate and marked accumulation in G2/M phase of cell cycle. PC-3 cells treated with brassinolide (20 μM, 24 h) showed characteristic apoptotic alterations: shrinking cellular figure, decreasing cell surface microvilli, cytoplasmic vacuoles, chromatin condensation. PC-3 cells treated with brassinolide (20 μM) for 6, 12 and 18 h showed a time-dependent increase in the activity of caspases-3.

In Vivo

Animal experiment

Animal models: Diabetes rats

Dosage form: Oral administration; 200, 100, and 50 mg/kg; once every day for 7 days

Applications: Oral administration of Brassinolide decreased the levels of blood glucose from 19.71-24.10 mmol/L to 9.89 mmol/L-12.70 mmol/L. The levels of blood glucose displayed significant differences after treatment with different dose of brassinolide. Brassinolide can still reduce the blood glucose levels without toxicity effect even at a lower dose.

Other notes: Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations


References


Caution

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