Genipin

Cat. No.: HY-17389
CAS No.: 6902-77-8
Molecular Formula: C₁₁H₁₄O₅
Molecular Weight: 226.23
Target: Autophagy
Pathway: Autophagy
Storage: 4°C, protect from light

Solvent & Solubility

In Vitro

DMSO : ≥ 210 mg/mL (928.26 mM)
* "≥" means soluble, but saturation unknown.

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>DMSO : ≥ 210 mg/mL (928.26 mM)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Concentration</strong></td>
<td><strong>Solvent Mass</strong></td>
</tr>
<tr>
<td>1 mM</td>
<td>4.4203 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.8841 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.4420 mL</td>
</tr>
</tbody>
</table>

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

In Vivo

1. Genipin is dissolved in 2% DMSO[^4].

BIOLOGICAL ACTIVITY

Description

Genipin is a natural water soluble crosslinking reagent.

In Vitro

Genipin stimulates glucose uptake in a time- and dose-dependent manner. The maximal effect is achieved at 2 h with a concentration of 10 μM. In myotubes, genipin promotes glucose transporter 4 (GLUT4) translocation to the cell surface, which increases the phosphorylation of insulin receptor substrate-1 (IRS-1), AKT, and GSK3β. Meanwhile, genipin increases ATP levels, closed KATP channels, and then increases the concentration of calcium in the cytoplasm in C2C12 myotubes. Genipin-stimulated glucose uptake could be blocked by both the PI3-K inhibitor wortmannin and calcium chelator EGTA. Moreover, genipin increases the level of reactive oxygen species and ATP in C2C12 myotubes[^1]. Genipin increases mitochondrial membrane potential, which then increases ATP levels and closes KATP channels, thereby stimulating insulin secretion in pancreatic β-cells. Genipin activates glucose-excited POMC neurons[^2]. Cytochrome c content increases significantly in the cytosol of genipin-treated FaO cells. Activation of caspase-3 and caspase-7 is ultimately responsible for genipin-induced apoptotic process in hepatoma cells. ROS level notably increases in Hep3B cells treated with 200 μM genipin[^3].

[^4]: www.MedChemExpress.com
PROTOCOL

Kinase Assay

Briefly, the peptide substrate N-acetyl-Asp-Glu-Val-Asp-ρ-nitroanilide (Ac-DEVD-ρNA) is added to the cell lysates in assay buffer (50 mM HEPES, pH 7.4, 100 mM NaCl, 0.1% CHAPS, 10 mM dithiothreitol, 1 mM EDTA, 10% glycerol) and incubated at 37°C. The cleavage of the substrate is monitored at 405 nm.

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

CUSTOMER VALIDATION

- Universidade de São Paulo. 2017-04-17.

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REFERENCES


