Ginsenoside Rc

**Cat. No.:** HY-N0042

**CAS No.:** 11021-14-0

**Molecular Formula:** C\textsubscript{53}H\textsubscript{90}O\textsubscript{22}

**Molecular Weight:** 1079.27

**Target:** GABA Receptor; TNF Receptor; Interleukin Related

**Pathway:** Membrane Transporter/Ion Channel; Neuronal Signaling; Apoptosis; Immunology/Inflammation

**Storage:**
- Powder: -20°C for 3 years, 4°C for 2 years, In solvent: -80°C for 6 months, -20°C for 1 month

### SOLVENT & SOLUBILITY

**In Vitro**

H\textsubscript{2}O: 50 mg/mL (46.33 mM; Need ultrasonic)

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Mass</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>0.9266 mL</td>
<td>4.6328 mL</td>
<td>9.2655 mL</td>
<td></td>
</tr>
<tr>
<td>5 mM</td>
<td>0.1853 mL</td>
<td>0.9266 mL</td>
<td>1.8531 mL</td>
<td></td>
</tr>
<tr>
<td>10 mM</td>
<td>0.0927 mL</td>
<td>0.4633 mL</td>
<td>0.9266 mL</td>
<td></td>
</tr>
</tbody>
</table>

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

### BIOLOGICAL ACTIVITY

**Description**

Ginsenoside Rc, one of major Ginsenosides from Panax ginseng, enhances GABA receptor\textsubscript{A} (GABA\textsubscript{A})-mediated ion channel currents (I\textsubscript{GABA}). Ginsenoside Rc inhibits the expression of TNF-\textalpha and IL-1\textbeta.

**IC\textsubscript{50} & Target**

<table>
<thead>
<tr>
<th>IC\textsubscript{50}</th>
<th>TNF-\textalpha</th>
<th>IL-1\textbeta</th>
</tr>
</thead>
</table>

**In Vitro**

Ginsenoside Rc, one of major Ginsenosides from Panax ginseng, enhances \gamma-aminobutyric acid (GABA) receptor\textsubscript{A} (GABA\textsubscript{A})-mediated ion channel currents. Ginsenoside Rc enhances GABA-mediated ion currents in oocytes expressing the GABA\textsubscript{A} receptor\textsuperscript{[1]}. Ginsenoside Rc significantly inhibits the expression of macrophage-derived cytokines, such as TNF-\textalpha and IL-1\textbeta. Ginsenoside Rc also markedly suppresses the activation of TANK-binding kinase 1/\textk\textbeta kinase \epsilon/interferon regulatory factor-3 and p38/ATF-2 signaling in activated RAW264.7 macrophages, human synovial cells, and HEK293 cells. Ginsenoside Rc exerts its anti-inflammatory actions by suppressing TANK-binding kinase 1/\textk\textbeta kinase \epsilon/interferon regulatory factor-3 and p38/ATF-2 signaling. Ginsenoside Rc suppresses the nuclear translocation of phospho-ATF-2 and phospho-FRA-1, whereas the translocation of p65 at its peak time points (30 and 60 min) is not decreased by Ginsenoside Rc treatment. Ginsenoside Rc regulates the expression of the proinflammatory cytokine TNF-\textalpha, which is produced by macrophages, by suppressing AP-
**PROTOCOL**

**Kinase Assay**

To evaluate the effects of Ginsenoside Rc on kinase activity, immunoprecipitated TBK1, IKKe, and p38 are incubated in reaction buffer in the presence or absence of Ginsenoside Rc. The reactions are initiated by the addition of Mg-ATP. After a 30 min incubation at 30°C, the reactions are stopped by the addition of sample buffer and the samples are boiled. Kinase activity is assessed by immunoblotting with antibodies against the phospho-forms of IKKe, IRF-3, and ATF-2. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**REFERENCES**


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

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