Product Data Sheet

Chemical Properties

Product Name: Cardamonin
Cas No.: 19309-14-9; 18956-16-6
M.Wt: 270.28
Formula: C16H14O4

Chemical Name: (E)-1-(2,4-dihydroxy-6-methoxyphenyl)-3-phenylprop-2-en-1-one
Canonical SMILES: OC1=C(C(/C=C/C2=CC=CC=C2)=O)C(OC)=CC(O)=C1
Solubility: Soluble in DMSO
Storage: Store at -20°C
General tips: For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
Shopping Condition: Evaluation sample solution: ship with blue ice
All other available size: ship with RT, or blue ice upon request

Biological Activity

Targets: Immunology/Inflammation
Pathways: NF-κB
Description:

IC50: 1.2 μM (NF-κB activation) [1]
Cardamonin (2′,4′-dihydroxy-6′-methoxychalcone), a chalcone isolated from the fruits of Alpinia rafflesiana, shows anti-inflammatory activity by targeting the nuclear factor kappa-light-chain-enhancer of activated B cells (NF-κB) pathway. NF-κB is a protein complex that controls cytokine production, transcription of DNA and cell survival.
In vitro: Cardamonin is a potential anti-inflammatory drug that targets the NF-κB pathway, which leads to suppress both NO and PGE2 synthesis, iNOS and COX-2 expression and enzymatic activity. The inhibition activation was due to a dose-dependent inhibition of phosphorylation and degradation of I-κBα, which resulted in a reduction of p65 NF-κB nuclear translocation [2]. Cardamonin also appears to inhibit prostaglandin E2, thromboxane B2 production, tumor necrosis factor a (TNF-a) release, and intracellular reactive oxygen species generation, all in a dose-dependent manner [3].

In vivo: Cardamonin shows protective effects on acute lung injury in sepsis. In mice, the results showed that cardamonin decreases systemic inflammatory responses, during sepsis, by downregulating TNF-a and interleukins [3].

Clinical trial: So far, no clinical study has been conducted.

Reference:

Protocol

Cell experiment:

Cell lines Activated RAW 264.7 cells and whole blood, vascular smooth muscle cell

Preparation method The solubility of this compound in DMSO is > 10 mM. 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

Applications Cardamonin inhibited NO and PGE2 production from lipopolysaccharide- and IFNγ-induced RAW cells and whole blood with IC50 values of 11.4 μM and 26.8 μM, respectively. In whole blood, cardamonin inhibited the generation of TxB2. Cardamonin dose-dependently inhibited the generation of intracellular reactive oxygen species and secretion of TNF-α from RAW 264.7 cells with IC50 values of 12.8 μM and 4.6 μM, respectively. Treatment with Cardamonin (37, 74, or 111 μM) inhibited Ang II-induced proliferation of rat VSMCs. Cardamonin suppressed Ang II-stimulated migration of rat VSMCs.
### Animal experiment [3]:

<table>
<thead>
<tr>
<th>Animal models</th>
<th>Female ICR mice, Male Sprague-Dawley rats</th>
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</thead>
<tbody>
<tr>
<td>Dosage form</td>
<td>Intraperitoneal injection, 0.02-20 mg/kg, daily for 4 consecutive days; oral administration, 3-30 mg/kg</td>
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<tr>
<td>Applications</td>
<td>In female ICR mice, Cardamonin (0.02–2 mg/kg, i.p.) inhibited NO production. In male Sprague-Dawley rats, Cardamonin (3-30 mg/kg, oral administration) significantly inhibited PBQ-induced writhing. Cardamonin dose-dependently increased the withdrawal response latencies in carrageenan-induced hyperalgesia.</td>
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<tr>
<td>Other notes</td>
<td>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.</td>
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</table>

### Reference:


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**Caution**

**FOR RESEARCH PURPOSES ONLY.**

**NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will
maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.