Isoliquiritigenin
NLRP3 inflammasome inhibitor
Catalog code: inh-ilg
https://www.invivogen.com/isoliquiritigenin

For research use only
Version 2014-MM

PRODUCT INFORMATION
Contents:
- 10 mg Isoliquiritigenin provided lyophilized

Storage and stability:
- Product is shipped at room temperature. Upon receipt, store at -20°C. Upon resuspension, prepare aliquots and store at -20°C. Resuspended product is stable for at least 6 months when properly stored. Avoid repeated freeze-thaw cycles.

Quality control:
- Purity ≥98% (UHPLC)
- Product is stable for at least 6 months when properly stored. Avoid repeated freeze-thaw cycles.

METHODS
Preparation of 1 mg/ml (3.9 mM) stock solution
1. Add 1 ml of DMSO to 10 mg isoliquiritigenin. Mix by vortexing.
2. Prepare a 1:10 dilution with DMSO to obtain a 1 mg/ml solution
3. Prepare further dilutions using sterile endotoxin-free water.

Working concentration: 1 to 50 μg/ml for cell culture assays

In vitro inhibition of the NLRP3 inflammasome:
The following protocol describes the monitoring of NLRP3 inflammasome inhibition in human THP1-Null2 cells by assessing the inhibition of IL-1β production:
1. Prepare a THP1-Null2 cell suspension and add 3 x 10⁵ cells per well in a 96-well plate.
2. Prime cells by adding 1 μg/ml LPS-EK for 3 hours at 37°C in 5% CO₂.
3. Gently remove medium and add 180 μl of fresh test medium.
4. Stimulate cells by adding 100-200 mg/ml MSU crystals in the presence or absence of Isoliquiritigenin (1-50 μg/ml).
5. Incubate from 6 hours to overnight at 37°C in 5% CO₂.
6. Determine caspase-1 inhibition by detecting mature IL-1β with InvivoGen’s HEK-Blue™ IL-1β reporter cells, which are specifically engineered to detect bioactive IL-1β.

PROTOCOLS
For reference only; as described in the indicated publications.

Cell Culture Assay
Cells: RAW 264.7 cells
Working concentration: 30 μM (7.7 μg/ml)
Pre-incubation: 30 minutes
Method: NF-κB activation was monitored by measuring GFP expression from a reporter construct using flow cytometry.

Animal Study
Animal model: BALB/c mice
Dose: 50 mg/kg
Administration: Orally

RELATED PRODUCTS

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<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Cat. Code</th>
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<tr>
<td>LPS-EK</td>
<td>LPS from E. coli K12</td>
<td>tirl-eklp</td>
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<tr>
<td>MSU Crystals</td>
<td>Inflammasome inducer</td>
<td>tirl-msu</td>
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<tr>
<td>Poly(diAdT)</td>
<td>Inflammasome inducer</td>
<td>tirl-patn</td>
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<tr>
<td>THP1-Null2 Cells</td>
<td>Human monocytes</td>
<td>thp-nullz</td>
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<tr>
<td>HEK-Blue™ IL-1β cells</td>
<td>IL-1β reporter cells</td>
<td>hkb-il1b</td>
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<tr>
<td>VX-765</td>
<td>Caspase-1 and -4 inhibitor</td>
<td>inh-vx765i-1</td>
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CHEMICAL PROPERTIES
Solubility: 10 mg/ml in DMSO and 25 mg/ml in ethanol
CAS number: 961-29-5
Formula: C₁₅H₁₂O₄
Molecular weight: 256 g/mol
Structure:


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