**PRODUCT INFORMATION**

**Content:**
- 1 g of glybenclamide (glyburide)

**Storage and stability:**
- Glybenclamide is provided as a white solid and shipped at room temperature. Store at room temperature. Product is stable for 2 years.
- Upon resuspension, glybenclamide should be aliquoted and stored at -20˚C. Avoid repeated freeze-thaw cycles. Resuspended product is stable for 6-8 months at -20˚C when properly stored.

**DESCRIPTION**

Glybenclamide, also known as glyburide, is a widely used drug for the treatment of type 2 diabetes. Glybenclamide is an ATP-sensitive potassium channel inhibitor. It blocks the maturation of caspase-1 and pro-IL-1β by inhibiting the K+ efflux. Glybenclamide was shown to potently block the activation of the NLRP3 inflammasome induced by PAMPs, DAMPs and crystalline substances. Recent data suggest that glybenclamide works downstream of the P2X7 receptor but upstream of NLRP3.


**CHEMICAL PROPERTIES**

**CAS Number:** 10238-21-8  
**Linear formula:** C23 H28 CIN 3O5S  
**Molecular weight:** 494.0  
**Appearance:** White solid  
**Solubility:** Soluble in DMSO (25 mg/ml) and ethanol (5 mg/ml)  
**Purity:** 98%  
**Working concentration:** 25 μg/ml

**METHODS**

**Preparation of 25 mg/ml stock solution:**

*Note: Spin briefly the vial before opening the cap.*
- Add 200 μl of DMSO to 5 mg of glybenclamide and mix by vortexing.
- Prepare further dilutions by adding the appropriate amount of H2O or PBS.  
*Note: Addition of H2O or PBS to the glybenclamide stock solution generates a white solution. Homogenize before use.*

**Inhibition of NLRP3-induced caspase-1:**

The following protocol describes the inhibition of NLRP3-induced caspase-1 in THP-1 cells, a human monocytic cell line used in many studies on the inflammasome. The cells are grown in RPMI 1640 medium supplemented with 10% heat inactivated fetal bovine serum, 2 mM L-glutamine and antibacterial antibiotics such as penicillin/streptomycin or Normocin™. THP-1 cells are grown in suspension to a density of 1.0x10⁶ cells/ml in tissue culture flasks.

1- Inoculate a 96-well plate with THP-1 cells at a density of 2.0x10⁵ cells/well.
2- Prime cells with 1 μg/ml LPS for 3 hours at 37°C in 5% CO₂.
3- Wash cells gently with PBS and add fresh culture medium.
4- Stimulate cells by adding ATP (5 mM) or MSU crystals (100-200 μg/ml) in the presence or absence of 25 μg/ml glybenclamide.
7- Incubate from 6 hours to overnight at 37°C in 5% CO₂.

**Detection of IL-1β in the supernatant of THP-1 cells**

Detection of mature IL-1β in the supernatant of THP-1 cells can be determined by Western blot, ELISA or by using InvivoGen’s HEK-Blue™ IL-1β cells. Theses cells are specifically engineered to detect bioactive IL-1β.

**RELATED PRODUCTS**

<table>
<thead>
<tr>
<th>Product</th>
<th>Catalog Code</th>
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<tbody>
<tr>
<td>ATP</td>
<td>tlr-atp</td>
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<td>HEK-Blue™ IL-1β cells</td>
<td>hkb-il1b</td>
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<td>LPS (E. coli lipopolysaccharide)</td>
<td>tlr-eklps</td>
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<td>MSU crystals</td>
<td>tlr-msu</td>
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<tr>
<td>Normocin™</td>
<td>ant-nr-1</td>
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TECHNICAL SUPPORT  
Toll free (US): 888-457-5873  
Outside US: (+1) 858-457-5873  
Europe: +33 562-71-69-39  
E-mail: info@invivogen.com  
Website: www.invivogen.com

InvivoGen  
3950 Sorrento Valley Blvd. Suite 100  
San Diego, CA 92121 - USA
Inhibition of LPS-induced TLR4/MyD88 signaling with PepinhMYD

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<thead>
<tr>
<th>Product</th>
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<tr>
<td>THP1-Blue™-CD14 cells</td>
<td>thp-cd14sp</td>
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<td>Pam3CSK4</td>
<td>tlrl-pms</td>
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<td>LPS-EB (<em>E. coli</em> 0111:B4)</td>
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<td>FLA-ST (flagellin <em>S. typhimurium</em>)</td>
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