

# Product Datasheet

## Glybenclamide (NLRP3 Inhibitor)

### NBP2-30141

Unit Size: 1000 mg

Store at -20C. Avoid freeze-thaw cycles.

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**NBP2-30141**

Glybenclamide (NLRP3 Inhibitor)

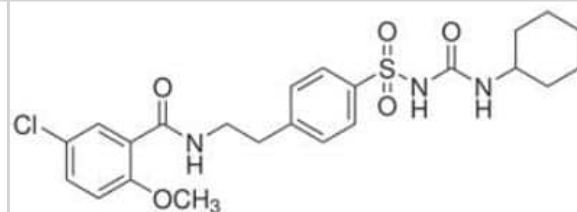
| Product Information         |                                                                                                                                         |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Unit Size                   | 1000 mg                                                                                                                                 |
| Concentration               | Lyoph                                                                                                                                   |
| Storage                     | Store at -20C. Avoid freeze-thaw cycles.                                                                                                |
| Reconstitution Instructions | Reconstitute dilute further with sterilized PBS. Make a stock solution of 25 mg/ml of the NLRP3 inhibitor in high purity DMSO (>99.9%). |
| Buffer                      | Form : White Solid                                                                                                                      |

| Product Description |                                                                                                                                                                                                                                         |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Species             | Human                                                                                                                                                                                                                                   |
| Reactivity Notes    | Human reactivity reported in scientific literature (PMID: 29680907).                                                                                                                                                                    |
| Preparation Method  | For multiple uses, we suggest aliquoting the stock solution prior to freezing. Bring the solution to room temperature before opening. Make further dilutions using sterile PBS. After reconstituted dilute further with sterilized PBS. |
| Inhibitor Target    | NLRP3                                                                                                                                                                                                                                   |

| Product Application Details |                     |
|-----------------------------|---------------------|
| Application Notes           | Inhibition of NLRP3 |

**Images**

Glybenclamide (NLRP3 Inhibitor) [NBP2-30141] - Structure of the NLRP3 Inhibitor Glybenclamide: C<sub>23</sub>H<sub>28</sub>ClN<sub>3</sub>O<sub>5</sub>S



## Publications

Phulphagar K, Kuhn LI, Ebner S et al. Proteomics reveals distinct mechanisms regulating the release of cytokines and alarmins during pyroptosis Cell reports 2021-03-09 [PMID: 33691121]

Iida T, Daisuke Hirayama , Minami N et al. Downregulation of RalGTPase-activating protein promotes colitis-associated cancer via NLRP3 inflammasome activation Cell Mol Gastroenterol Hepatol 2019-10-14 [PMID: 31622786] (N/A, Mouse)

Assetta B, Morris-Love J, Gee GV et al. Dysregulation of Gap Junction Function and Cytokine Production in Response to Non-Genotoxic Polycyclic Aromatic Hydrocarbons in an In Vitro Lung Cell Model Cancers (Basel) 2019-04-23 [PMID: 31018556] (In-Cell Western (ICW), Mouse)

Qin L, Fengyong Z, Jiamin Z et al. NLRP3 Inflammasome Activation Regulates Aged RBC Clearance. Inflammation 2018-04-21 [PMID: 29680907] (In-Cell Western (ICW), Human)

Hsieh CW, Chen YM, Lin CC et al. Elevated Expression of the NLRP3 Inflammasome and Its Correlation with Disease Activity in Adult-onset Still Disease. J. Rheumatol. 2017-05-15 [PMID: 28507179] (In-Cell Western (ICW), Human)

Zhang F, Wang L, Wang JJ et al. The caspase-1 inhibitor AC-YVAD-CMK attenuates acute gastric injury in mice: involvement of silencing NLRP3 inflammasome activities. Sci Rep. 2016-04-07 [PMID: 27053298]

Cho JS, Guo Y, Ramos RI et al. Neutrophil-derived IL-1B is sufficient for abscess formation in immunity against Staphylococcus aureus in mice. PLoS Pathog. 2012-01-01 [PMID: 23209417] (Mouse)

### Details:

Inhibition of *S. aureus* (Fig 6C) and MRSA (Fig 6D) activation in mouse neutrophils isolated from mouse bone marrow. The glibenclamide inhibitor was used at 100 micromolar. Readout assay: IL-1B production. Glibenclamide inhibited IL-1B production by about



## Procedures

### MSDS (NBP2-30141)

Glybenclamide (NLRP3 Inhibitor):

Material Safety Data Sheet for Glybenclamide

#### Hazard Information

Chemical Name Glybenclamide

Chemical Formula C<sub>23</sub>H<sub>28</sub>ClN<sub>3</sub>O<sub>5</sub>S

CAS Number 10238-21-8

EEC-No 233-570-6

#### Hazard Identification

Physical/chemical hazards

#### First Aid Measures

**Eye Contact** Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

**Skin Contact** In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

**Inhalation** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion** Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

#### Accidental Release Measures

Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. Use appropriate tools to put the spilled solid in a convenient waste disposal container. Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate thorough the sanitary system.

#### Handling and Storage

**Handling** Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. If ingested, seek medical advice immediately and show the container or the label. Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 20 degrees C (68 degrees F). Use original container.

#### Exposure Controls / Personal Protection

**Respirator** Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

**Ventilation** yes

**Gloves** gloves

**Eye Protection** safety glasses

**Other Precautions** Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels low.

#### Physical and Chemical Properties

**Form** Powder

**Color** White

**Odor** Odorless

**Melting Point** No data available

**Boiling Temperature** No data available

**Density** No data available

**Vapor Pressure** No data available

**Solubility in Water** Very soluble

**Flash Point** No data available

**Explosion limits** No data available

**Ignition Temperature** No data available



#### Stability and Reactivity

The product is stable.

#### Toxicological Information

These products are carbon oxides (CO, CO<sub>2</sub>), nitrogen oxides (NO, NO<sub>2</sub>...), sulfur oxides (SO<sub>2</sub>, SO<sub>3</sub>...), halogenated compounds. Not considered to be toxic for humans.

#### Disposal Considerations

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

#### Other Information

This product is not classified according to the EU regulations.





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### **Limitations**

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Inhibitors are guaranteed for 1 year from date of receipt.

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