

# Product data sheet



MedKoo Cat#: 510335 Name: GlyH-101 CAS: 328541-79-3 Chemical Formula: C <sub>19</sub> H <sub>15</sub> Br <sub>2</sub> N <sub>3</sub> O <sub>3</sub> Exact Mass: 490.9480 Molecular Weight: 493.155	
Product supplied as: Powder	
Purity (by HPLC): ≥ 98%	
Shipping conditions: Ambient temperature	
Storage conditions: Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.	

## 1. Product description:

GlyH-101 is a CFTR inhibitor (cystic fibrosis transmembrane conductance regulator). GlyH-101 is a glycine hydrazide that has been shown to block CFTR channels. GlyH-101 blocked I(Cl.PKA) in a concentration- and voltage-dependent fashion (IC<sub>50</sub>) at +100 mV=0.3 Å± 1.5 µM and at -100 mV=5.1 Å± 1.3 µM). GlyH-101 blocks the open pore of cardiac CFTR channels at an electrical distance of 0.15 Å± 0.03 from the external membrane surface.

## 2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

## 3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	30.0	60.83
DMF:PBS (pH 7.2) (1:1)	0.5	1.01
DMSO	57.58	116.75

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.03 mL	10.14 mL	20.28 mL
5 mM	0.41 mL	2.03 mL	4.06 mL
10 mM	0.20 mL	1.01 mL	2.03 mL
50 mM	0.04 mL	0.20 mL	0.41 mL

## 5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

## 6. Recommended literature which reported protocols for in vitro and in vivo study

### In vitro study

1. Causer AJ, Khalaf M, Klein Rot E, Brand K, Smith J, Bailey SJ, Cummings MH, Shepherd AI, Saynor ZL, Shute JK. CFTR limits F-actin formation and promotes morphological alignment with flow in human lung microvascular endothelial cells. *Physiol Rep.* 2021 Dec;9(23):e15128. doi: 10.14814/phy2.15128. PMID: 34851051; PMCID: PMC8634629.
2. Callaghan PJ, Ferrick B, Rybakovsky E, Thomas S, Mullin JM. Epithelial barrier function properties of the 16HBE14o- human bronchial epithelial cell culture model. *Biosci Rep.* 2020 Oct 30;40(10):BSR20201532. doi: 10.1042/BSR20201532. PMID: 32985670; PMCID: PMC7569203.

### In vivo study

1. Heras AF, Veerappan A, Silver RB, Emala CW, Worgall TS, Perez-Zoghbi J, Worgall S. Increasing Sphingolipid Synthesis Alleviates Airway Hyperreactivity. *Am J Respir Cell Mol Biol.* 2020 Nov;63(5):690-698. doi: 10.1165/rcmb.2020-0194OC. PMID: 32706610; PMCID: PMC7605160.

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## 7. Bioactivity

### Biological target:

GlyH-101 is a potent CFTR inhibitor.

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### In vitro activity

On treatment with GlyH-101, there appeared to be a redistribution of F-actin from the periphery (Figure 4b,e). Profile analysis of the images using ImageJ confirmed a loss of cortical rim F-actin to form cytosolic F-actin polymers in cells treated with GlyH-101 at 24 h under both static and shear conditions (Figure 4h). Furthermore, a significant ( $p < 0.05$ ) increase in F-actin (Figure 4g) and the occurrence of paracellular gaps (Figure 4e) after 24 h of shear stress was observed in cells treated with GlyH-101, suggesting the formation of cytosolic stress fibers and cellular retraction, compared to cells treated with GlyH-101 in static conditions.

Reference: Physiol Rep. 2021 Dec;9(23):e15128. <https://pubmed.ncbi.nlm.nih.gov/34851051/>

### In vivo activity

GlyH-101 also decreased AHR in SPT-deficient mice *in vivo*. This study identifies the manipulation of sphingolipid synthesis as a novel metabolic therapeutic strategy to alleviate AHR.

Reference: Am J Respir Cell Mol Biol. 2020 Nov;63(5):690-698. <https://pubmed.ncbi.nlm.nih.gov/32706610/>

*Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.*