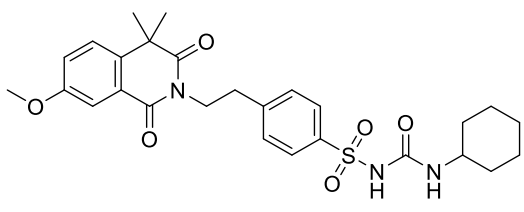


# Product data sheet



MedKoo Cat#: 317973 Name: Gliquidone CAS: 33342-05-1 Chemical Formula: C <sub>27</sub> H <sub>33</sub> N <sub>3</sub> O <sub>6</sub> S Exact Mass: 527.20901 Molecular Weight: 527.636	
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:

Gliquidone is an ATP-dependent K<sup>+</sup> (KATP) channel blocker. Gliquidone is an anti-diabetic drug in the sulfonylurea class. Gliquidone is used in the treatment of diabetes mellitus type 2. This block causes a depolarization which leads to activation of voltage-dependent Ca channels and Ca<sup>2+</sup> influx and eventually increases insulin release.

## 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	56.86
DMSO	60.0	113.71
DMSO:PBS (pH 7.2) (1:5)	0.16	0.30
Ethanol	1.0	1.90

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.90 mL	9.48 mL	18.95 mL
5 mM	0.38 mL	1.90 mL	3.79 mL
10 mM	0.19 mL	0.95 mL	1.90 mL
50 mM	0.04 mL	0.19 mL	0.38 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. Yu M, Zhang L, Sun S, Zhang Z. Gliquidone improves retinal injury to relieve diabetic retinopathy via regulation of SIRT1/Notch1 pathway. BMC Ophthalmol. 2021 Dec 27;21(1):451. doi: 10.1186/s12886-021-02215-8. PMID: 34961513; PMCID: PMC8711144.

### In vivo study

1. Kim J, Park JH, Shah K, Mitchell SJ, Cho K, Hoe HS. The Anti-diabetic Drug Gliquidone Modulates Lipopolysaccharide-Mediated Microglial Neuroinflammatory Responses by Inhibiting the NLRP3 Inflammasome. Front Aging Neurosci. 2021 Oct 29;13:754123. doi: 10.3389/fnagi.2021.754123. PMID: 34776934; PMCID: PMC8587901.

2. Tian H, Yang J, Xie Z, Liu J. Gliquidone Alleviates Diabetic Nephropathy by Inhibiting Notch/Snail Signaling Pathway. Cell Physiol Biochem. 2018;51(5):2085-2097. doi: 10.1159/000495827. Epub 2018 Dec 6. PMID: 30522115.

## 7. Bioactivity

Biological target:

# Product data sheet



Gliquidone (Glurenorm) is an ATP-sensitive K<sup>+</sup> channel antagonist with IC50 of 27.2 nM.

## In vitro activity

---

In HRECs, HG (high glucose) treatment remarkably decreased the cell viability, but promoted caspase-3 activity and apoptosis (Fig. 2A-C, P < 0.01). After addition of GLI, HG-induced HRECs showed the increased cell viability and the reduced caspase-3 activity and apoptosis rate (P < 0.01).

Reference: BMC Ophthalmol. 2021 Dec 27;21(1):451. <https://pubmed.ncbi.nlm.nih.gov/34961513/>

## In vivo activity

---

Treatment with 20 mg/kg gliquidone significantly decreased the LPS-induced increases in Iba-1 immunoreactivity, Iba-1-positive cells, and Iba-1-labeled area in the cortex and hippocampal CA1 and CA3 regions (Figures 1A–E). By contrast, administration of 10 mg/kg gliquidone significantly reduced the LPS-induced increases in Iba-1 intensity, Iba-1-positive cells, and Iba-1-labeled area only in the hippocampal CA3 region (Figures 1C–E). These results indicated that a gliquidone dose of 20 mg/kg more effectively downregulates LPS-mediated microgliosis and changes in microglial kinetics and morphology in the wild-type mouse brain.

Reference: Front Aging Neurosci. 2021 Oct 29;13:754123. <https://pubmed.ncbi.nlm.nih.gov/34776934/>

*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.*