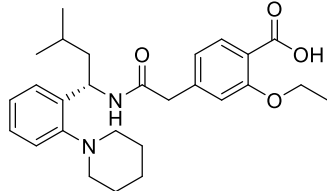


Product data sheet



MedKoo Cat#: 318659 Name: Repaglinide CAS#: 135062-02-1 Chemical Formula: C ₂₇ H ₃₆ N ₂ O ₄ Exact Mass: 452.2675 Molecular Weight: 452.59	
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:

Repaglinide is an antidiabetic drug in the class of medications known as meglitinides, and was invented in 1983. Repaglinide is an oral medication used in addition to diet and exercise for blood sugar control in type 2 diabetes mellitus. The mechanism of action of repaglinide involves promoting insulin release from β -islet cells of the pancreas.

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	66.29
DMSO	30	66.29
Ethanol	25	55.24

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.21 mL	11.05 mL	22.10 mL
5 mM	0.44 mL	2.21 mL	4.42 mL
10 mM	0.22 mL	1.10 mL	2.21 mL
50 mM	0.04 mL	0.22 mL	0.44 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

- Salcher S, Spoden G, Huber JM, Golderer G, Lindner H, Ausserlechner MJ, Kiechl-Kohlendorfer U, Geiger K, Obexer P. Repaglinide Silences the FOXO3/Lumican Axis and Represses the Associated Metastatic Potential of Neuronal Cancer Cells. *Cells*. 2019 Dec 18;9(1):1. doi: 10.3390/cells9010001. PMID: 31861249; PMCID: PMC7017090.
- Kalehoei E, Azadbakht M. The beneficial effect of repaglinide on in vitro maturation and development ability of immature mouse oocytes. *In Vitro Cell Dev Biol Anim*. 2017 Aug;53(7):626-631. doi: 10.1007/s11626-017-0152-3. Epub 2017 Apr 21. PMID: 28432599.

In vivo study

- Motawi TK, Al-Kady RH, Senousy MA, Abdelraouf SM. Repaglinide Elicits a Neuroprotective Effect in Rotenone-Induced Parkinson's Disease in Rats: Emphasis on Targeting the DREAM-ER Stress BiP/ATF6/CHOP Trajectory and Activation of Mitophagy. *ACS Chem Neurosci*. 2023 Jan 4;14(1):180-194. doi: 10.1021/acscchemneuro.2c00656. Epub 2022 Dec 20. PMID: 36538285.

Product data sheet



2. Kim CH, Park SH, Sim YB, Kim SS, Kim SJ, Lim SM, Jung JS, Suh HW. Effects of nateglinide and repaglinide administered intracerebroventricularly on the CA3 hippocampal neuronal cell death and hyperglycemia induced by kainic acid in mice. *Brain Res Bull.* 2014 May;104:36-41. doi: 10.1016/j.brainresbull.2014.02.003. Epub 2014 Apr 2. PMID: 24704461.

7. Bioactivity

Biological target:

Repaglinide is a metaglitinide antidiabetic agent that blocks ATP-dependent potassium (Kir6) channels in pancreatic β -cells ($K_d = 0.42$ nM for the sulphonylurea receptor SUR1 when co-expressed with Kir6.2). In vivo, repaglinide lowers blood glucose in fasted rats and dogs (ED50s = 10 and 28.3 μ g/kg, respectively).

In vitro activity

Silencing the FOXO3/LUM axis by repaglinide shows a promising strategy for therapeutic interventions in neuroblastoma and other FOXO3-dependent tumors.

Reference: *Cells.* 2019 Dec 18;9(1):1. <https://pubmed.ncbi.nlm.nih.gov/31861249/>

In vivo activity

Repaglinide modulates the downstream regulatory element antagonist modulator-endoplasmic reticulum stress BiP/ATF6/CHOP cascade, increases mitophagy/autophagy, inhibits apoptosis, and lessens oxidative stress, astrocyte/microglial activation, and neuroinflammation in PD.

Reference: *ACS Chem Neurosci.* 2023 Jan 4;14(1):180-194. <https://pubmed.ncbi.nlm.nih.gov/36538285/>

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.