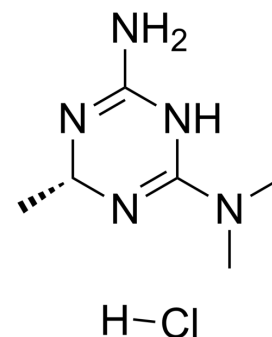


Imeglimin hydrochloride

Cat. No.:	HY-14771A
CAS No.:	775351-61-6
Molecular Formula:	C ₆ H ₁₄ ClN ₅
Molecular Weight:	191.66
Target:	Mitochondrial Metabolism; Reactive Oxygen Species
Pathway:	Metabolic Enzyme/Protease; Immunology/Inflammation; NF-κB
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H₂O : ≥ 50 mg/mL (260.88 mM)
 DMSO : 25 mg/mL (130.44 mM; Need ultrasonic)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	5.2176 mL	26.0879 mL	52.1757 mL
	5 mM	1.0435 mL	5.2176 mL	10.4351 mL
	10 mM	0.5218 mL	2.6088 mL	5.2176 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: PBS
Solubility: 100 mg/mL (521.76 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.08 mg/mL (10.85 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.08 mg/mL (10.85 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.08 mg/mL (10.85 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Imeglimin hydrochloride (EMD 387008) is an oral glucose-lowering agent. Imeglimin also reduces reactive oxygen species (ROS) production, increases mitochondrial DNA and improves mitochondrial function^[1].

IC₅₀ & Target

ROS; mitochondrial function^[1]

In Vitro

Preincubation with Imeglimin (10 mM for 4 h or 100 μ M for 24 h) also fully prevented tert-butylhydroperoxide (tBH)-induced cell death^[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay^[2]

Cell Line:	Human endothelial cells (HMEC-1)
Concentration:	100 μ M and 10 mM
Incubation Time:	100 μ M for 24 h, 10 mM for 4 h
Result:	Prevention of cell death.

In Vivo

Imeglimin (200 mg/kg b.i.d. by oral gavage during the last 6 weeks of HFHSD feeding) significantly decreases hyperglycemia, and restores normal glucose tolerance^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male C57BL/6JOLA ^{Hsd} mice (4 weeks old) ^[1]
Dosage:	200 mg/kg
Administration:	Oral gavage; b.i.d.; 6 weeks
Result:	A slight decrease in body weight and food intake associated with some diarrhea was observed but only during the first few days of treatment.

CUSTOMER VALIDATION

- Diabetes. 2021 Sep 29;db210123.
- Mol Neurobiol. 2022 Mar 7.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Vial G, et al. Imeglimin normalizes glucose tolerance and insulin sensitivity and improves mitochondrial function in liver of a high-fat, high-sucrose diet mice model. Diabetes. 2015 Jun;64(6):2254-64.

[2]. Detaille D, et al. Imeglimin prevents human endothelial cell death by inhibiting mitochondrial permeability transition without inhibiting mitochondrial respiration. Cell Death Discov. 2016 Jan 18;2:15072.

Caution: Product has not been fully validated for medical applications. For research use only.

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