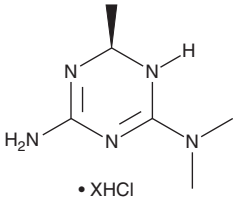
PRODUCT INFORMATION

Imeglimin (hydrochloride)

Item No. 37556

CAS Registry No.:	775351-61-6
Formal Name:	(6R)-1,6-dihydro-N^2,N^2,6-trimethyl-1,3,5-triazine-2,4-diamine, hydrochloride
MF:	$C_6H_{13}N_5$ • XHCl
FW:	155.2
Purity:	≥95%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Imeglimin (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the imeglimin (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Imeglimin (hydrochloride) is soluble in methanol and DMSO.

Description

Imeglimin is an anti-hyperglycemic compound.[1] It inhibits high-glucose- or *tert*-butyl hydroperoxide-induced cell death in HMEC-1 endothelial cells when used at a concentration of 100 µM. Imeglimin (100 µM) reduces *tert*-butyl hydroperoxide-induced cytochrome *c* levels, as well as mitochondrial membrane permeability without affecting mitochondrial respiration, in HMEC-1 cells. It decreases plasma glucose levels and increases plasma insulin levels in a rat model of high-fat diet-induced obesity when administered at a dose of 150 mg/kg.[2] Imeglimin (100 mg/kg) also reduces colonic balloon-induced pain-related muscle contractions in rats.[3] *In vivo*, imeglimin (100 mg/kg) reduces colonic hyperpermeability in a rat model of LPS-induced irritable bowel syndrome (IBS), an effect that can be reversed by the AMP-activated protein kinase (AMPK) inhibitor compound C (dorsomorphin; Item Nos. 11967 | 21207) or the peroxisome proliferator-activated receptor γ (PPARγ) antagonist GW 9662 (Item No. 70785). Formulations containing imeglimin have been used in the treatment of type 2 diabetes.

References

1. Detaille, D., Vial, G., Borel, A.-L., *et al.* Imeglimin prevents human endothelial cell death by inhibiting mitochondrial permeability transition without inhibiting mitochondrial respiration. *Cell Death Discov.* **2**, 15072 (2016).
2. Perry, R.J., Cardone, R.L., Peterson, M.C., *et al.* Imeglimin lowers glucose primarily by amplifying glucose-stimulated insulin secretion in high-fat-fed rodents. *Am. J. Physiol. Endocrinol. Metab.* **11(2)**, E461-E470 (2016).
3. Nozu, T., Miyagishi, S., Ishioh, M., *et al.* Imeglimin prevents visceral hypersensitivity and colonic hyperpermeability in irritable bowel syndrome rat model. *J. Pharmacol. Sci.* **153(1)**, 26-30 (2023).

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