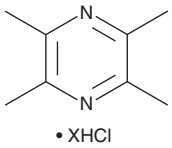
PRODUCT INFORMATION

Ligustrazine (hydrochloride)

Item No. 29658

CAS Registry No.:	76494-51-4
Formal Name:	2,3,5,6-tetramethyl-pyrazine, hydrochloride
Synonym:	2,3,5,6-Tetramethylpyrazine
MF:	$C_8H_{12}N_2$ • XHCl
FW:	136.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 212, 293 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Synthetic



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

Laboratory Procedures

Ligustrazine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the ligustrazine (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Ligustrazine (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of ligustrazine (hydrochloride) in these solvents is approximately 30 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of ligustrazine (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of ligustrazine (hydrochloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Ligustrazine is a compound that has been found in *L. wallichii* and has diverse biological activities, including antioxidant, anti-inflammatory, neuroprotective, and anticancer properties.[1-3] It inhibits hydrogen peroxide-induced decreases in cell viability and the levels of superoxide dismutase (SOD) and glutathione peroxidase (GPX) and increases in reactive oxygen species (ROS) and malondialdehyde (MDA) levels in human umbilical vein endothelial cells (HUVECs) when used at concentrations of 100 and 150 µg/ml.[1] Ligustrazine (50 and 100 µM) inhibits prostaglandin E_2 (PGE_2; Item No. 14010) production induced by LPS and IFN-γ in primary rat glia.[2] It reduces infarct volume, cortical edema, and cortical PGE_2 levels in a rat model of transient focal cerebral ischemia induced by common carotid artery and middle cerebral artery occlusion when administered at a dose of 20 mg/kg. Ligustrazine inhibits the proliferation of MG-63, Saos-2, and U2OS osteosarcoma cells (IC_{50}s = 10.3, 24.7, and 54.7 mg/ml, respectively) *in vitro* and reduces tumor growth in an MG-63 mouse xenograft model when administered at a dose of 100 mg/kg every other day.[3]

References

1. Li , W.-M., Liu, H.-T., Li, X.-Y., *et al. Basic Clin. Pharmacol. Toxicol.* **106(1)**, 45-52 (2010).
2. Liao, S.-L., Kao, T.-K., Chen, W.-Y., *et al. Neurosci. Lett.* **372(1-2)**, 40-45 (2004).
3. Wang, Y., Fu, Q., and Zhao, W. *Mol. Med. Rep.* **8(4)**, 984-988 (2013).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM