



LKT Laboratories, Inc.

Ligustrazine Hydrochloride

Phone: 888-558-5227
651-644-8424
Fax: 888-558-7329
Email: getinfo@lktlabs.com
Web: lktlabs.com

Product Information

Product ID L3326
CAS No. 76494-51-4
Chemical Name 2,3,5,6-tetramethylpyrazine;hydrochloride

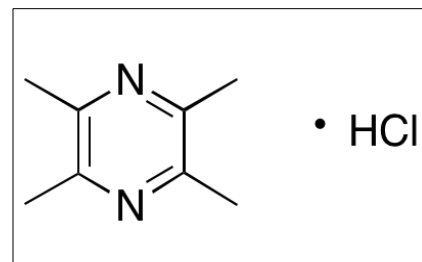
Synonym Tetramethylpyrazine Hydrochloride, Ligustrazine HCl

Formula $C_8H_{12}N_2 \cdot HCl$
Formula Wt. 172.66
Melting Point
Purity $\geq 98\%$
Solubility 34mg/mL in DMSO

Store Temp Ambient

Ship Temp Ambient

Description Ligustrazine is also known as tetramethylpyrazine. Tetramethylpyrazine is a dihydropyrazine found in Ligusticum walliichi that exhibits neuromodulatory, antioxidative, cognition enhancing, nephroprotective, antifibrotic, anti-inflammatory, and anticancer chemotherapeutic activities. This compound also inhibits PDE10A2 and acts as an antagonist at adenosine 2A and 2B receptors. In vitro, tetramethylpyrazine promotes neural progenitor cell migration and increases PI3K, PKC, and ERK signaling. Tetramethylpyrazine also induces neuroblastoma differentiation by targeting Topoisomerase $\text{li}\beta$ (topoII β). In animal models of chronic alcoholic encephalopathy, Tetramethylpyrazine improves learning and memory. Additionally, this compound inhibits arsenic-induced production of ROS and prevents apoptosis and mitochondrial dysfunction in kidney cells. Tetramethylpyrazine also ameliorates oxidative injury induced by methotrexate. In vitro, this compound inhibits proliferation of hepatic stellate cells. In animal models of hepatocellular carcinoma, tetramethylpyrazine inhibits tumor development and growth and induces cell cycle arrest and apoptosis.



Pricing and Availability

Bulk quantities available upon request

Product ID	Size	List Price
L3326	250 mg	\$54.60
L3326	1 g	\$67.80
L3326	5 g	\$188.00
L3326	25 g	\$488.50

References Yan YX, Zhao JX, Han S, et al. Tetramethylpyrazine induces SH-SY5Y cell differentiation toward the neuronal phenotype through activation of the PI3K/Akt/Sp1/TopoII β pathway. Eur J Cell Biol. 2015 Dec;94(12):626-41. PMID: 26518113.

Kong X, Zhong M, Su X, et al. Tetramethylpyrazine Promotes Migration of Neural Precursor Cells via Activating the Phosphatidylinositol 3-Kinase Pathway. Mol Neurobiol. 2015 Nov 28. [Epub ahead of print]. PMID: 26614511.

Zhang B, Lu C, Bai M, et al. Tetramethylpyrazine identified by network pharmacology approaches ameliorates methotrexate-induced oxidative organ injury. J Ethnopharmacol. 2015 Oct 1. [Epub ahead of print]. PMID: 26435225.

Li H, Yang X, Shi W, et al. Protective Effects of Tetramethylpyrazine on Cerebrovascular Regulations in Rats with Chronic Alcoholic Encephalopathy. Biomed Environ Sci. 2015 Sep;28(9):691-5. PMID: 26464259.

Gong X, Ivanov VN, Hei TK. 2,3,5,6-Tetramethylpyrazine (TMP) down-regulated arsenic-induced heme oxygenase -1 and ARS2 expression by inhibiting Nrf2, NF- κ B, AP-1 and MAPK pathways in human proximal tubular cells. Arch Toxicol. 2015 Sep 24. [Epub ahead of print]. PMID: 26404762.

Hu J, Cao G, Wu X, et al. Tetramethylpyrazine Inhibits Activation of Hepatic Stellate Cells through Hedgehog Signaling Pathways In Vitro. Biomed Res Int. 2015;2015:603067. PMID: 26380286.

Caution: This product is intended for laboratory and research use only. It is not for human or drug use.