



LKT Laboratories, Inc.

Trimetazidine Dihydrochloride

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Product Information

Product ID T7133

CAS No. 13171-25-0

Chemical Name 1-[(2,3,4-trimethoxyphenyl)methyl]piperazine dihydrochloride

Synonym Trimetazidine Hydrochloride

Formula $C_{14}H_{22}N_2O_3 \cdot 2HCl$

Formula Wt. 339.26

Melting Point

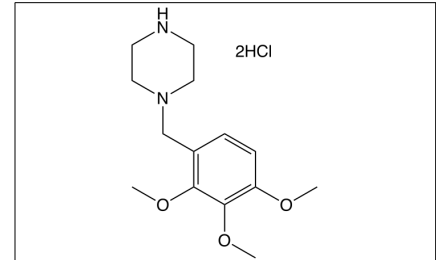
Purity $\geq 99\%$

Solubility

Store Temp Ambient

Ship Temp Ambient

Description Trimetazidine is a compound that exhibits anti-anginal, anti-ischemic, and cardioprotective activities; it inhibits long-chain 3-ketoacyl-CoA thiolase. Trimetazidine reverses pro-inflammatory effects of TNF- α in animal models, including preventing decreases in myosin heavy chain production and myotube size. Trimetazidine prevents muscle wasting and atrophy; its mechanism may involve activation of Akt/mTOR2 signaling. In animal models of ischemia/reperfusion, trimetazidine decreases superoxide generation and caspase-3 activity, decreasing infarct size. In clinical settings, this compound decreases free fatty acid oxidation, improving cardiac function, insulin sensitivity, and glucose control. Trimetazidine also treats vertigo and may act as an antagonist at kainate and AMPA receptors.



Pricing and Availability

Bulk quantities available upon request

Product ID	Size	List Price
T7133	250 mg	\$89.10
T7133	1 g	\$140.60
T7133	5 g	\$527.40

References Ferraro E, Giammarioli AM, Caldarola S, et al. The metabolic modulator trimetazidine triggers autophagy and counteracts stress-induced atrophy in skeletal muscle myotubes. *FEBS J.* 2013 Oct;280(20):5094-108. PMID: 23953053.

Khan M, Meduru S, Mostafa M, et al. Trimetazidine, administered at the onset of reperfusion, ameliorates myocardial dysfunction and injury by activation of p38 mitogen-activated protein kinase and Akt signaling. *J Pharmacol Exp Ther.* 2010 May;333(2):421-9. PMID: 20167841.

Tuunanen H, Engblom E, Naum A, et al. Trimetazidine, a metabolic modulator, has cardiac and extracardiac benefits in idiopathic dilated cardiomyopathy. *Circulation.* 2008 Sep 16;118(12):1250-8. PMID: 18765391.

Dayanithi G, Desmadryl G, Travo C, et al. Trimetazidine modulates AMPA/kainate receptors in rat vestibular ganglion neurons. *Eur J Pharmacol.* 2007 Nov 21;574(1):8-14. PMID: 17658512.

Demaison L, Fantini E, Sentex E, et al. Trimetazidine: in vitro influence on heart mitochondrial function. *Am J Cardiol.* 1995 Aug 24;76(6):31B-37B. PMID: 7645525.

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