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Zuschläge

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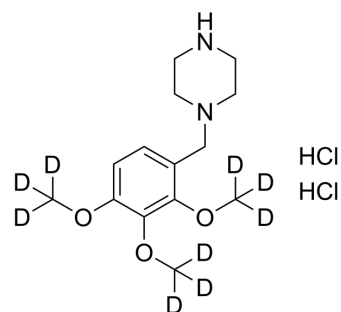
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Trimetazidine-d₉ dihydrochloride

Cat. No.:	HY-B0968S1
Molecular Formula:	C ₁₄ H ₁₅ D ₉ Cl ₂ N ₂ O ₃
Molecular Weight:	348.31
Target:	Isotope-Labeled Compounds; Autophagy
Pathway:	Others; Autophagy
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Trimetazidine-d₉ (dihydrochloride) is deuterium labeled Trimetazidine (dihydrochloride). Trimetazidine dihydrochloride is a selective long chain 3-ketoacyl coenzyme A thiolase inhibitor with an IC₅₀ of 75 nM, which can inhibit β-oxidation of free fatty acid (FFA). Trimetazidine dihydrochloride is an effective antianginal agent and a cytoprotective agent, has anti-oxidant, anti-inflammatory, antinociceptive and gastroprotective properties. Trimetazidine dihydrochloride triggers autophagy. Trimetazidine dihydrochloride is also a 3-hydroxyacyl-CoA dehydrogenase (HADHA) inhibitor^{[1][2][3][4][5]}.

REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019 Feb;53(2):211-216.
- [2]. Hossain F, et al. Inhibition of Fatty Acid Oxidation Modulates Immunosuppressive Functions of Myeloid-Derived Suppressor Cells and Enhances Cancer Therapies. *Cancer Immunol Res*. 2015 Nov;3(11):1236-47.
- [3]. Kantor PF, et al. The antianginal drug trimetazidine shifts cardiac energy metabolism from fatty acid oxidation to glucose oxidation by inhibiting mitochondrial long-chain 3-ketoacyl coenzyme A thiolase. *Circ Res*. 2000 Mar 17;86(5):580-8.
- [4]. Shenghu He, et al. Protective effects of trimetazidine against vascular endothelial cell injury induced by oxidation. *Journal of Geriatric Cardiology*, December 2008, Vol 5 No 4.
- [5]. Chrusciel P, et al. Defining the role of trimetazidine in the treatment of cardiovascular disorders: some insights on its role in heart failure and peripheral artery disease. *Drugs*. 2014 Jun;74(9):971-80.
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Caution: Product has not been fully validated for medical applications. For research use only.

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