



# SZABO SCANDIC

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## Produktinformation



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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

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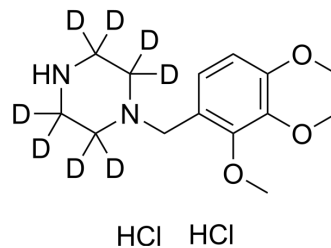
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## Trimetazidine-d<sub>8</sub> dihydrochloride

<b>Cat. No.:</b>	HY-B0968S
<b>CAS No.:</b>	1219795-37-5
<b>Molecular Formula:</b>	C <sub>14</sub> H <sub>16</sub> D <sub>8</sub> Cl <sub>2</sub> N <sub>2</sub> O <sub>3</sub>
<b>Molecular Weight:</b>	347.31
<b>Target:</b>	Autophagy
<b>Pathway:</b>	Autophagy
<b>Storage:</b>	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



### SOLVENT & SOLUBILITY

#### In Vitro

H<sub>2</sub>O : ≥ 50 mg/mL (143.96 mM)  
\* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.8793 mL	14.3964 mL	28.7927 mL
	5 mM	0.5759 mL	2.8793 mL	5.7585 mL
	10 mM	0.2879 mL	1.4396 mL	2.8793 mL

Please refer to the solubility information to select the appropriate solvent.

### BIOLOGICAL ACTIVITY

#### Description

Trimetazidine-d<sub>8</sub> (dihydrochloride) is the deuterium labeled Trimetazidine dihydrochloride. Trimetazidine dihydrochloride is a selective long chain 3-ketoacyl coenzyme A thiolase inhibitor with an IC<sub>50</sub> 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<sup>[1][2][3][4]</sup>.

#### In Vitro

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs<sup>[1]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### REFERENCES

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother.* 2019;53(2):211-216.

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[2]. 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.

[3]. Jain S, et al. Trimetazidine exerts protection against increasing current electroshock seizure test in mice. Seizure. 2010 Jun;19(5):300-2.

[4]. 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.

[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.

[6]. 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.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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