Trimetazidine (hydrochloride) (Item No. 18165) is an analytical reference standard that is structurally categorized as a piperazine. It decreases fatty acid β-oxidation by reversibly inhibiting mitochondrial long-chain 3-ketoacyl thiolase (IC₅₀ = 75 nM).¹ This, in turn, stimulates glucose oxidation.²,³ In ischemic heart, trimetazidine reduces ischemia/reperfusion injury in clinical trials.⁴ Compounds that reduce mitochondrial fatty acid β-oxidation, including trimetazidine, have shown clinical efficacy against chronic stable angina in clinical trials.²,⁵ In part because of its ability to ameliorate testosterone cardiotoxicity, trimetazidine has been classified as a prohibited substance by the World Anti-Doping Agency.⁵,⁶ This product is intended for research and forensic applications.

References