

# Caldaret

**Catalog No: tcsc0018450**



## Available Sizes

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**Size:** 1mg

**Size:** 5mg

**Size:** 10mg



## Specifications

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**CAS No:**

133804-44-1

**Formula:**

$C_{11}H_{16}N_2O_3S$

**Pathway:**

Membrane Transporter/Ion Channel

**Target:**

Na<sup>+</sup>/Ca<sup>2+</sup> Exchanger

**Purity / Grade:**

>98%

**Solubility:**

10 mM in DMSO

**Alternative Names:**

MCC-135

**Observed Molecular Weight:**

256.32

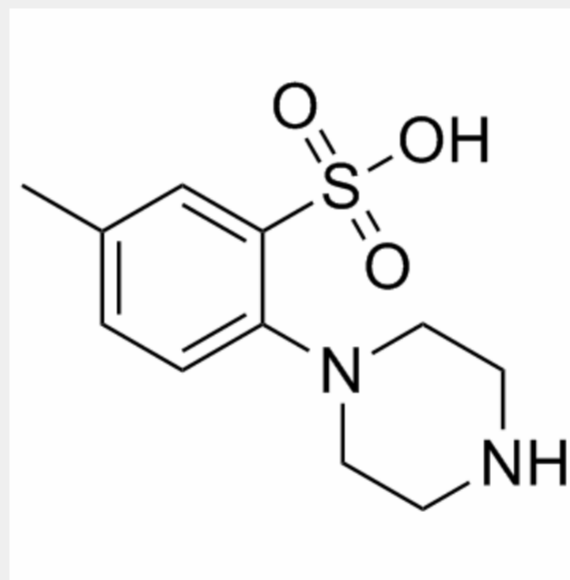
## Product Description

Caldaret is an intracellular **Ca<sup>2+</sup>** handling modulator that acts through reverse mode **Na<sup>+</sup>/Ca<sup>2+</sup> exchanger** inhibition.

IC50 & Target: Na<sup>+</sup>/Ca<sup>2+</sup> exchanger<sup>[1]</sup>

**In Vitro:** Caldaret (MCC-135) is demonstrated to restore Ca<sup>2+</sup>-ATPase activity of the sarcoplasmic reticulum (SR) isolated from the myocardium acutely exposed to ischemia and reperfusion in vitro<sup>[2]</sup>.

**In Vivo:** Caldaret, an intracellular Ca<sup>2+</sup> handling modulator, limits infarct size of reperfused canine heart. The cardioprotective effect of Caldaret, a novel intracellular Ca<sup>2+</sup> handling modulator that acts through reverse-mode Na<sup>+</sup>/Ca<sup>2+</sup> exchanger inhibition and potential sarcoplasmic reticulum (SR) Ca<sup>2+</sup> uptake enhancement, against reperfusion injury is investigated. Intravenously infused Caldaret (3 or 30 microg/kg per hour) for 30 min at left circumflex (LCX)-reperfusion markedly reduces infarct size (by 51.3% or 71.9%, respectively). The amelioration of intracellular Ca<sup>2+</sup> handling dysfunction achieved by Caldaret leads to cardioprotective effects against reperfusion injury following prolonged ischemia<sup>[1]</sup>. Caldaret (MCC-135) is a new potent compound with beneficial effects in heart failure. In diabetic rats, Caldaret decreases TR80 significantly without significant effect on developed tension (DT). Caldaret has minimal effects on SR Ca<sup>2+</sup> uptake in normal rats, that is observed as increased SR Ca<sup>2+</sup> uptake at uptake time of 20 and 30 s at the highest concentration of 10 μM. In diabetic rats, Caldaret increases SR Ca<sup>2+</sup> uptake all over the range of uptake time. Both initial rate of SR Ca<sup>2+</sup> uptake and the amount of Ca<sup>2+</sup> accumulated in the SR with longer uptake time are increased by Caldaret<sup>[2]</sup>.



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!