

Caldaret

Catalog No: tcsc0018450



Available Sizes

Size: 1mg

Size: 5mg

Size: 10mg



Specifications

CAS No:

133804-44-1

Formula:

$C_{11}H_{16}N_2O_3S$

Pathway:

Membrane Transporter/Ion Channel

Target:

Na⁺/Ca²⁺ Exchanger

Purity / Grade:

>98%

Solubility:

10 mM in DMSO

Alternative Names:

MCC-135

Observed Molecular Weight:

256.32

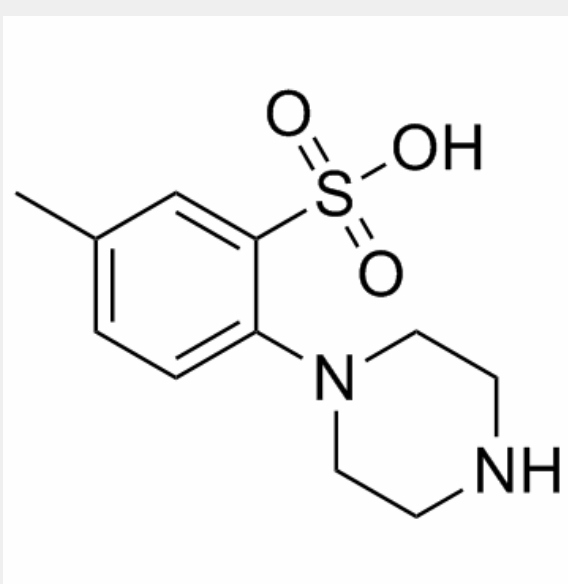
Product Description

Caldaret is an intracellular **Ca²⁺** handling modulator that acts through reverse mode **Na⁺/Ca²⁺ exchanger** inhibition.

IC50 & Target: Na⁺/Ca²⁺ exchanger^[1]

In Vitro: Caldaret (MCC-135) is demonstrated to restore Ca²⁺-ATPase activity of the sarcoplasmic reticulum (SR) isolated from the myocardium acutely exposed to ischemia and reperfusion in vitro^[2].

In Vivo: Caldaret, an intracellular Ca²⁺ handling modulator, limits infarct size of perfused canine heart. The cardioprotective effect of Caldaret, a novel intracellular Ca²⁺ handling modulator that acts through reverse-mode Na⁺/Ca²⁺ exchanger inhibition and potential sarcoplasmic reticulum (SR) Ca²⁺ 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 Ca²⁺ handling dysfunction achieved by Caldaret leads to cardioprotective effects against reperfusion injury following prolonged ischemia^[1]. 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 Ca²⁺ uptake in normal rats, that is observed as increased SR Ca²⁺ uptake at uptake time of 20 and 30 s at the highest concentration of 10 μM. In diabetic rats, Caldaret increases SR Ca²⁺ uptake all over the range of uptake time. Both initial rate of SR Ca²⁺ uptake and the amount of Ca²⁺ accumulated in the SR with longer uptake time are increased by Caldaret^[2].



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