

Mdivi-1

Catalog No: tcsc2462



Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Size: 100mg



Specifications

CAS No:

338967-87-6

Formula:

$C_{15}H_{10}Cl_2N_2O_2S$

Pathway:

Cytoskeleton

Target:

Dynamin

Purity / Grade:

>98%

Solubility:

DMSO : ≥ 32 mg/mL (90.60 mM); H₂O :

Alternative Names:

Mitochondrial division inhibitor 1

Observed Molecular Weight:

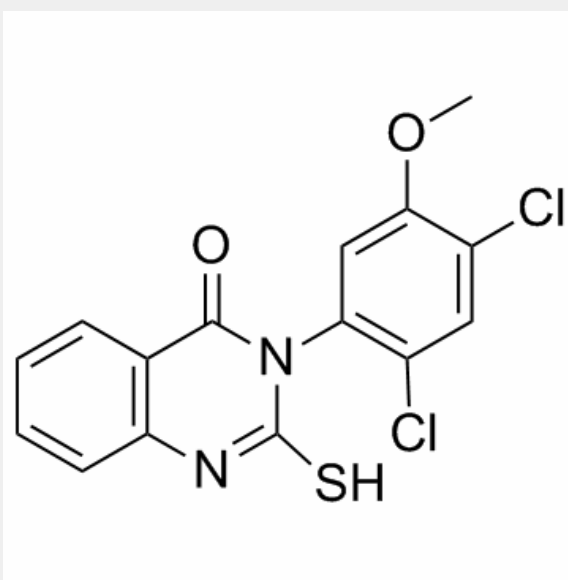
353.22

Product Description

Mdivi-1 a selective cell-permeable inhibitor of mitochondrial division dynamin-related GTPase (**DRP1**) and mitochondrial division Dynamin I (**Dnm1**).

In Vitro: Mdivi-1 inhibits Dnm1 GTPase activity in a dose-dependent manner, with an estimated EC₅₀ of 1-10 μM. Mdivi-1 increases the apparent K_{0.5} for GTP, lowers the apparent V_{max} for GTP hydrolysis, and causes an increase in the Hill coefficient observed for GTP in the Dnm1 GTP hydrolysis reaction^[1]. Cells treated with mdivi-1 display decreased cytochrome c release and a reduced rate of phosphatidylserine exposure on their surface following apoptosis induction, consistent with an inhibition of apoptosis and with previous studies using other strategies to compromise DRP1 activity^[2]. Mdivi-1 results in apoptotic cell death in ischemic retina^[3].

In Vivo: The mitochondrial division DRP, Dnm1, is the target of mdivi-1 in vivo. Mdivi-1 quantitatively blocks GMPPCP- dependent Dnm1 self-assembly in a concentration range similar to its effects on mitochondrial division in vivo^[1]. Mdivi-1 (50 mg/kg, i.p.) significantly decreases GFAP protein expression in the normal mouse retina^[3].



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