bio-techne
TOCRIS

Print Date: May 25th 2023

Certificate of Analysis

www.tocris.com

Product Name: **Mdivi 1** **Catalog No.: 3982** **Batch No.: 3**

CAS Number: 338967-87-6

IUPAC Name: 3-(2,4-Dichloro-5-methoxyphenyl)-2,3-dihydro-2-thioxo-4(1*H*)-quinazolinone

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{15}H_{10}Cl_2N_2O_2S$

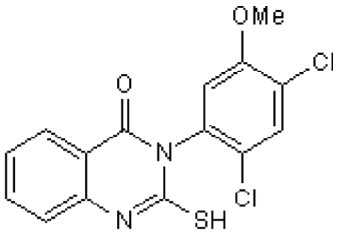
Batch Molecular Weight: 353.22

Physical Appearance: White solid

Solubility: DMSO to 100 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.1% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	51.01	2.85	7.93
Found	50.92	2.93	7.87

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Description:

Mdivi 1 is a selective inhibitor of dynamin GTPase (IC_{50} = 1 - 10 µM); attenuates Dnm1- and Drp1-mediated mitochondrial division. Mdivi 1 inhibits mitochondrial outer membrane permeabilization (MOMP) and attenuates apoptosis. In cancer cell lines, Mdivi 1 reduces cell proliferation; in an animal model of ischemic retina Mdivi 1 treatment blocks apoptosis. In a cell model, Mdivi 1 protects against mutant huntington-induced damage and mitochondrial dysfunction. Mdivi 1 also inhibits autophagy and protects neurons from excitotoxicity.

Physical and Chemical Properties:

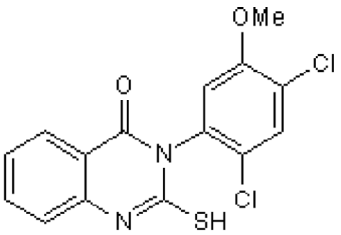
Batch Molecular Formula: $C_{15}H_{10}Cl_2N_2O_2S$

Batch Molecular Weight: 353.22

Physical Appearance: White solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Store at -20°C

Solubility & Usage Info:

DMSO to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Ruiz *et al* (2018) Mitochondrial division inhibitor 1 (mdivi-1) protects neurons against excitotoxicity through the modulation of mitochondrial function and intracellular Ca $^{2+}$ signaling. Front.Mol.Neurosci.. PMID: 29386996.

Galluzzi *et al* (2017) Pharmacological modulation of autophagy: therapeutic potential and persisting obstacles. Nat.Rev.Drug.Discov. . PMID: 28529316 .

Manczak and Reddy (2015) Mitochondrial division inhibitor 1 protects against mutant huntingtin-induced abnormal mitochondrial dynamics and neuronal damage in Huntington's disease. Hum.Mol.Genet. ***24*** 7308. PMID: 26464486.