bio-techne
TOCRIS

Print Date: Mar 13th 2024

Certificate of Analysis

www.tocris.com

Product Name: **MRT 67307 dihydrochloride** **Catalog No.: 5134** **Batch No.: 2**

CAS Number: 1781882-89-0

IUPAC Name: *N*-[3-[[5-Cyclopropyl-2-[[3-(4-morpholinylmethyl)phenyl]amino]-4-pyrimidinyl]amino]propyl]cyclobutanecarboxamide dihydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{26}H_{36}N_6O_2.2HCl.1¾H_2O$

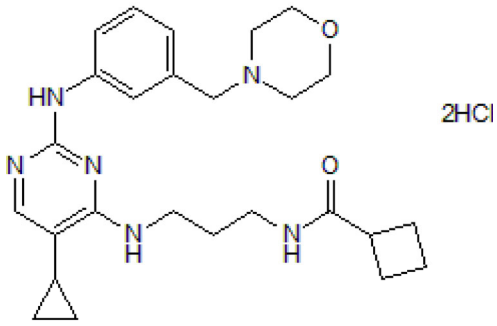
Batch Molecular Weight: 569.04

Physical Appearance: Beige solid

Solubility: water to 20 mM
DMSO to 100 mM

Storage: Desiccate at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.12 (Chloroform:Methanol [9:1])

HPLC: Shows 98.3% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	54.88	7.35	14.77
Found	54.83	7.23	14.67

bio-techne.com
info@bio-techne.com
techsupport@bio-techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio-techne.com
Tel: +86 (21) 52380373

Europe Middle East Africa
Tel: +44 (0)1235 529449

Rest of World
www.tocris.com/distributors
Tel:+1 612 379 2956

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Description:

MRT 67307 dihydrochloride is a salt inducible kinase (SIK) inhibitor (IC_{50} values are 67, 250 and 430 nM for SIK2, SIK1 and SIK3 respectively) and a potent inhibitor of ULK1 and 2 (IC_{50} values of 45 and 38 nM, respectively). MRT 67307 dihydrochloride also inhibits TBK1, MARK1-4, IKKε and NUAK1 (IC_{50} values are 19, 27-52, 160 and 230 nM respectively). Has no effect on IKKα or IKKβ. Induces IL-10 secretion and inhibits TNF-α and IL-6 secretion in bacterial LPS-stimulated macrophages. Also enhances IL-1-induced activation of NFκB-dependent gene transcription in mouse embryonic fibroblast (MEF) cells. Inhibits autophagy.... Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

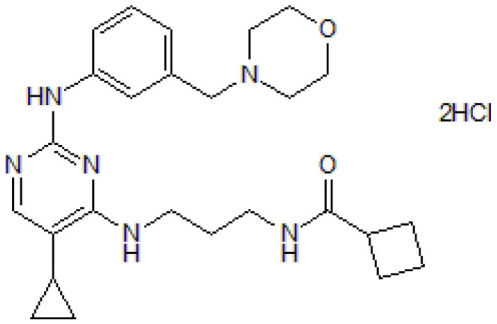
Batch Molecular Formula: $C_{26}H_{36}N_6O_2.2HCl.1¾H_2O$

Batch Molecular Weight: 569.04

Physical Appearance: Beige solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Desiccate at RT. This product is packaged under an inert atmosphere.

Solubility & Usage Info:

water to 20 mM
DMSO to 100 mM

This product is supplied in lyophilized form. It may appear as a solid, gel or film and be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

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:

Galluzzi *et al* (2017) Pharmacological modulation of autophagy: therapeutic potential and persisting obstacles. Nat.Rev.Drug.Discov. ***16*** 487. PMID: 28529316 .

Petherick *et al* (2015) Pharmacological inhibition of ULK1 kinase blocks mammalian target of rapamycin (mTOR)-dependent autophagy. J.Biol.Chem. ***290*** 28726. PMID: 26614783.

Clark *et al* (2012) Phosphorylation of CRTC3 by the salt-inducible kinases controls the interconversion of classically activated and regulatory macrophages. Proc.Natl.Acad.Sci.U.S.A. ***109*** 16986. PMID: 23033494.