Necrostatin-5

Cat. No.: HY-124546

CAS No.: 337349-54-9

Molecular Formula: $C_{19}H_{17}N_3O_2S_2$

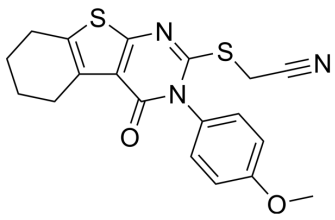
Molecular Weight: 383.49

Target: Necroptosis; RIP kinase

Pathway: Apoptosis

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 5 mg/mL (13.04 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.6076 mL	13.0381 mL	26.0763 mL
	5 mM	0.5215 mL	2.6076 mL	5.2153 mL
	10 mM	0.2608 mL	1.3038 mL	2.6076 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Necrostatin-5 (Nec-5) is a potent necroptosis inhibitor with an EC_{50} value of 0.24 μM. Necrostatin-5 also is a RIP1 inhibitor. Necrostatin-5 shows cardioprotective effects[1][2][3].

IC_{50} & Target

RIPK1	necroptosis 0.24 μM (EC50)

In Vitro

Necrostatin-5 (1, 5, 10, 50, 100 μM) inhibits LDH release in a dose-dependent mnner[3].
Necrostatin-5 (100 μM) protects MH-S cells against challenge with S. aureus, Listeria monocytogenes, S. pneumoniae, uropathogenic Escherichia coli (UPEC), and protectes against pneumolysin-induced death[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Necrostatin-5 (2.46 mg/kg; i.p.) shows cardioprotective effects on the isolated heart model in rats[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	200-300 g, male Wistar rats[2]
Dosage:	2.46 mg/kg
Administration:	I.p.; 60 min before experiment
Result:	Reduced the infarction zone caused by 30-min global ischemia and 120-min reperfusion.

REFERENCES

[1]. Wang K, et al. Structure-activity relationship analysis of a novel necroptosis inhibitor, Necrostatin-5. Bioorg Med Chem Lett. 2007 Mar 1;17(5):1455-65.

[2]. Dmitriev YV, et al. Study of cardioprotective effects of necroptosis inhibitors on isolated rat heart subjected to global ischemia-reperfusion. Bull Exp Biol Med. 2013 Jun;155(2):245-8.

[3]. González-Juarbe N, et al. Pore-Forming Toxins Induce Macrophage Necroptosis during Acute Bacterial Pneumonia. PLoS Pathog. 2015 Dec 11;11(12):e1005337.

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