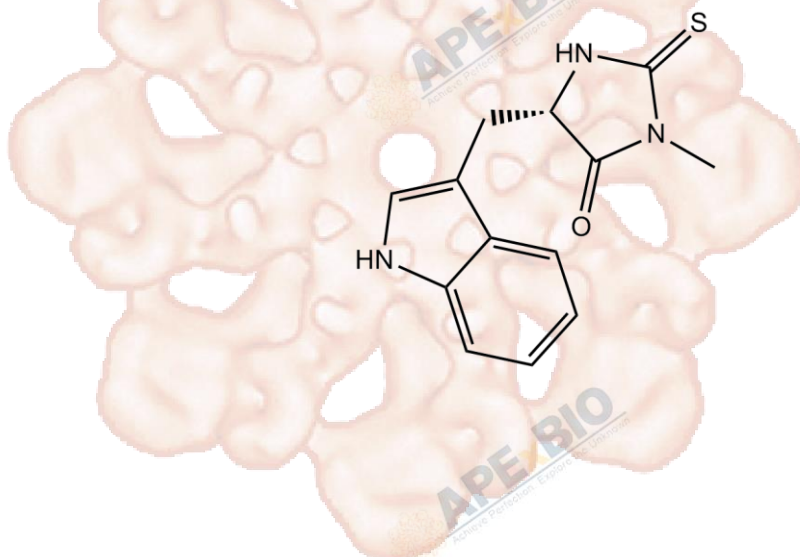


Product Data Sheet

Necrostatin-1

Cat. No.:	A4213
CAS No.:	4311-88-0
Formula:	C ₁₃ H ₁₃ N ₃ O ₃ S
M.Wt:	259.33
Synonyms:	MTH-DL-Tryptophan, Nec-1
Target:	Apoptosis
Pathway:	TNF- α
Storage:	Store at -20°C



Solvent & Solubility

insoluble in H₂O; ≥ 12.97 mg/mL in DMSO; ≥ 13.29 mg/mL in EtOH with ultrasonic

In Vitro

Preparing Stock Solutions	Solvent	Mass		
		1mg	5mg	10mg
	Concentration			
	1 mM	3.8561 mL	19.2805 mL	38.5609 mL
	5 mM	0.7712 mL	3.8561 mL	7.7122 mL
	10 mM	0.3856 mL	1.9280 mL	3.8561 mL

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

Biological Activity

Shortsummary

RIP1 inhibitor

IC₅₀ & Target

490 nM (EC₅₀) (RIP1)

In Vitro

Cell Viability Assay

Cell Line:	Mouse osteocyte cell line (MLO-Y4)
Preparation method:	The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
Reacting conditions:	30 mM; 24h

	Applications:	Necrostatin-1 (30 mmol/L) inhibited the mouse osteocyte cell line (MLO-Y4) necroptosis induced by TNF- α in vitro.
In Vivo	Animal experiment	
	Animal models:	Rats underwent the ovariectomized surgery; Eight-week-old mice underwent sham surgery or contrast-induced AKI treatment;
	Dosage form:	1.65 mg/kg/d; intraperitoneal injection; once per day for 4 weeks
	Applications:	Treatment with Necrostatin-1 (1.65 mg/kg/d) significantly decreased RIP1 and RIP3 expression in ovariectomized rats. Moreover, necrostatin-1 prevented osmotic nephrosis and contrast-induced AKI in mice.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

1. Ashok Kumar, Ramon Edwin Caballero, et al. "Inhibitor of apoptosis, IAP, genes play a critical role in the survival of HIV-infected macrophages." BioRxiv. 2019 February 06.
2. Luo Q, Yang D, et al. "Role of the Death Receptor and Endoplasmic Reticulum Stress Signaling Pathways in Polyphyllin I-Regulated Apoptosis of Human Hepatocellular Carcinoma HepG2 Cells." Biomed Res Int. 2018 Dec 25;2018:5241941.PMID:30671458
3. Yuan Z, Zhang H, et al. "A new perspective of triptolide-associated hepatotoxicity: Liver hypersensitivity upon LPS stimulation." Toxicology. 2019 Feb 15;414:45-56.PMID:30633930
4. Wang J, He H, et al. "Uncoupling effect of F16 is responsible for its mitochondrial toxicity and anti-cancer activity." Toxicol Sci. 2017 Oct 23.PMID:29069523
5. Chirieleison SM, Marsh RA, et al. "Nucleotide-binding oligomerization domain (NOD) signaling defects and cell death susceptibility cannot be uncoupled in X-linked inhibitor of apoptosis(XIAP)-driven inflammatory disease." J Biol Chem. 2017 Apr 12. pii:jbc.M117.781500.PMID:28404814

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References

1. Degterev, A., Hitomi, J., Gemscheid, M., Ch'en, I. L., Korkina, O., Teng, X., Abbott, D., Cuny, G. D., Yuan, C., Wagner, G., Hedrick, S. M., Gerber, S. A., Lugovskoy, A. and Yuan, J. (2008) Identification of RIP1 kinase as a specific cellular target of necrostatins. Nat Chem Biol. 4, 313-3212
2. Cui, H., Zhu, Y., Yang, Q., Zhao, W., Zhang, S., Zhou, A. and Jiang, D. (2016) Necrostatin-1 treatment inhibits osteocyte necroptosis and trabecular deterioration in ovariectomized rats. Sci Rep. 6, 33803
3. Linkermann, A., Heller, J. O., Prokai, A., Weinberg, J. M., De Zen, F., Himmerkus, N., Szabo, A. J., Brasen, J. H., Kunzendorf, U. and Krautwald, S. (2013) The RIP1-kinase inhibitor necrostatin-1 prevents osmotic nephrosis and contrast-induced AKI in mice. J Am Soc Nephrol. 24, 1545-1557

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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