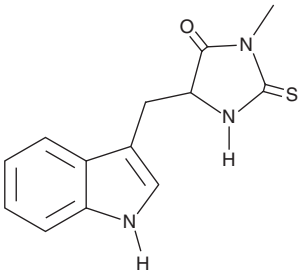
PRODUCT INFORMATION

Necrostatin-1

Item No. 11658

CAS Registry No.:	4311-88-0
Formal Name:	5-(1H-indol-3-ylmethyl)-3-methyl-2-thioxo-4-imidazolidinone
Synonym:	Nec-1
MF:	$C_{13}H_{13}N_3OS$
FW:	259.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 220, 266 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Necrostatin-1 is supplied as a crystalline solid. A stock solution may be made by dissolving the necrostatin-1 in the solvent of choice, which should be purged with an inert gas. Necrostatin-1 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of necrostatin-1 in these solvents is approximately 3, 14, and 20 mg/ml, respectively.

Necrostatin-1 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, necrostatin-1 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Necrostatin-1 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Necroptosis is a regulated caspase-independent cell death mechanism that results in morphological features resembling necrosis. Serine/threonine kinase activity of the death domain receptor-associated molecule RIP1 is thought to be essential for Fas ligand–induced and tumor necrosis factor-α (TNF-α) induced necrosis.[1] Necrostatin-1 is an inhibitor of RIP1 kinase that prevents the death of TNF-α-treated FADD-deficient Jurkat cells with an EC_{50} value of 490 nM.[1,2] It has been used to investigate the pathological importance of necroptosis in ischemic brain injury and myocardial infarction.[1,2]

References

1. Teng, X., Degterev, A., Jagtap, P., *et al.* Structure-activity relationship study of novel necroptosis inhibitors. *Bioorg. Med. Chem. Lett.* **15(22)**, 5039-5044 (2005).
2. Degterev, A., Hitomi, J., Germscheid, M., *et al.* Identification of RIP1 kinase as a specific cellular target of necrostatins. *Nat. Chem. Biol.* **4(5)**, 313-321 (2008).

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