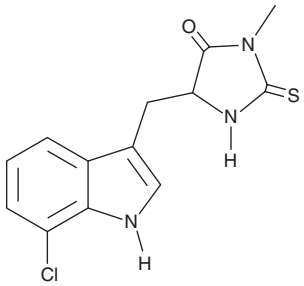
PRODUCT INFORMATION

Cl-Necrostatin-1

Item No. 11656

CAS Registry No.:	862377-51-3
Formal Name:	5-[(7-chloro-1H-indol-3-yl)methyl]-3-methyl-2-thioxo-4-imidazolidinone
Synonyms:	7-Cl-Nec-1, 7-Cl-Necrostatin-1, Nec-1f, Necrostatin-1f
MF:	$C_{13}H_{12}ClN_3OS$
FW:	293.8
Purity:	≥95%
UV/Vis.:	λ_{max}: 221, 267 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

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

Cl-Necrostatin-1 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, Cl-necrostatin-1 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Cl-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

Cl-Necrostatin-1 is an inhibitor of receptor-interacting protein kinase 1 (RIPK1).[1] It inhibits RIPK1 activity when used at concentrations of 0.3, 3, and 30 µM. It also inhibits TNF-α-induced necroptosis in Jurkat cells deficient in Fas-associated death domain protein (FADD; EC_{50} = 180 nM), a modification that prevents caspase activation in response to death-domain receptor signaling.[2,3] Cl-Necrostatin-1 (2 µl of a 4 mM solution, i.c.v.) reduces infarct size when administered pre- and post-occlusion, or post-occlusion only, in a mouse model of middle cerebral artery occlusion (MCAO).

References

1. 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).
2. 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).
3. Degterev, A., Huang, Z., Boyce, M., *et al.* Chemical inhibitor of nonapoptotic cell death with therapeutic potential for ischemic brain injury. *Nat. Chem. Biol.* **1(2)**, 112-119 (2005).

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