

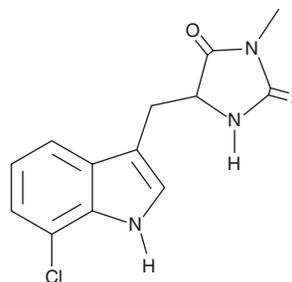
# PRODUCT INFORMATION



## 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<sub>13</sub>H<sub>12</sub>ClN<sub>3</sub>OS  
**FW:** 293.8  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 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).<sup>1</sup> 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<sub>50</sub> = 180 nM), a modification that prevents caspase activation in response to death-domain receptor signaling.<sup>2,3</sup> 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. Degtrev, A., Hitomi, J., Gernscheid, 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., Degtrev, A., Jagtap, P., *et al.* Structure-activity relationship study of novel necroptosis inhibitors. *Bioorg. Med. Chem. Lett.* **15(22)**, 5039-5044 (2005).
3. Degtrev, 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).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM