

PRODUCT INFORMATION



Necrostatin-1 Inactive Control

Item No. 21192

CAS Registry No.: 64419-92-7

Formal Name: 5-(1H-indol-3-ylmethyl)-2-thioxo-4-imidazolidinone

Synonym: Nec-1i

MF: C₁₂H₁₁N₃OS

FW: 245.3

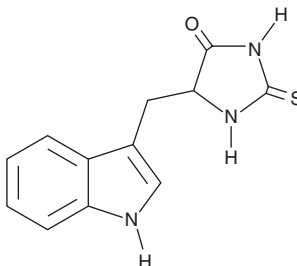
Purity: ≥98%

UV/Vis.: λ_{max}: 220, 267 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly



Laboratory Procedures

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

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

Nec-1i is a demethylated variant of necrostatin-1 (Nec-1; Item No. 11658), a RIP1 kinase inhibitor.¹ While both Nec-1 and Nec-1i inhibit the immune regulator indoleamine 2,3-dioxygenase, Nec-1i is ~ 100-fold less effective than Nec-1 in inhibiting RIP1 kinase *in vitro* and 10-fold less potent than Nec-1 in a mouse necroptosis assay.² However, equally high doses of Nec-1 and Nec-1i are reported to inhibit TNF-induced systemic inflammatory response syndrome *in vivo*.² Nec-1i is often used as an inactive control in studies using Nec-1 to exclude nonspecific off-target effects.

References

1. Degterev, A., Hitomi, J., Gemsch, M., *et al.* Identification of RIP1 kinase as a specific cellular target of necrostatins. *Nature Chemical Biology* **4**(5), 313-321 (2008).
2. Takahashi, N., Duprez, L., Grootjans, S., *et al.* Necrostatin-1 analogues: Critical issues on the specificity, activity and *in vivo* use in experimental disease models. *Cell Death Dis.* **2012**(3), e437 (2012).

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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