

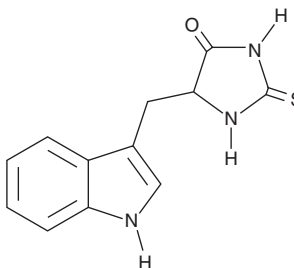
PRODUCT INFORMATION



Necrostatin-1 Inactive Control

Item No. 21192

CAS Registry No.: 64419-92-7
Formal Name: 5-(1H-indol-3-ylmethyl)-2-thioxo-4-imidazolidinone
Synonyms: Nec-1i, Nec-1 Inactive Control
MF: C₁₂H₁₁N₃OS
FW: 245.3
Purity: ≥98%
UV/Vis.: λ_{max}: 220, 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

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, which should be purged with an inert gas. Nec-1i is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). 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. Degtarev, 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. 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.* **3**(11), 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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