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_{3}OS
FW: 259.3
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis: λ_{max} 220, 266 nm

Laboratory Procedures
For long term storage, we suggest that necrostatin-1 (nec-1) be stored as supplied at -20°C. It should be stable for at least two years.

Nec-1 is supplied as a crystalline solid. A stock solution may be made by dissolving the nec-1 in the solvent of choice. Nec-1 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-1 in these solvents is approximately 3, 14, and 20 mg/ml, respectively.

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

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

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