Neutrophil Elastase Inhibitor
Item No. 14922

CAS Registry No.: 1448314-31-5
Formal Name: 1-(3-methylbenzoyl)-1H-indazole-3-carbonitrile
MF: C16H11N3O
FW: 261.3
Purity: ≥95%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis: \( \lambda_{\text{max}} \) 242, 307 nm

Laboratory Procedures
For long term storage, we suggest that neutrophil elastase inhibitor be stored as supplied at -20°C. It should be stable for at least two years.

Neutrophil elastase inhibitor is supplied as a crystalline solid. A stock solution may be made by dissolving the neutrophil elastase inhibitor in the solvent of choice. Neutrophil elastase inhibitor is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of neutrophil elastase inhibitor in these solvents is approximately 0.5, 10, and 30 mg/ml, respectively.

Neutrophil elastase inhibitor is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, neutrophil elastase inhibitor should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Neutrophil elastase inhibitor 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.

Neutrophil elastase is stored within cytoplasmic azurophilic granules in the neutrophil and released upon stimulation by pathogens where it acts either as free protein or is associated with neutrophil extracellular traps (NETs). Together with other proteases released from activated neutrophils, neutrophil elastase plays a critical role in degrading invading pathogens and thus provides the earliest line of defense in the immune system. Neutrophil elastase inhibitor is an N-benzoylindazole derivative that selectively targets the binding domain of neutrophil elastase (IC\(_{50}\) = 7 nM). It has been shown to inhibit additional serine proteases, thrombin and urokinase, only at higher, micromolar concentrations (IC\(_{50}\) = 1.9 and 6.6 µM, respectively).

Reference

Related Products
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