

# PRODUCT INFORMATION



## AZD 7986

Item No. 33184

**CAS Registry No.:** 1802148-05-5  
**Formal Name:** (2S)-N-[(1S)-1-cyano-2-[4-(2,3-dihydro-3-methyl-2-oxo-5-benzoxazolyl)phenyl]ethyl]hexahydro-1,4-oxazepine-2-carboxamide

**Synonyms:** Brensocatib, INS1007

**MF:** C<sub>23</sub>H<sub>24</sub>N<sub>4</sub>O<sub>4</sub>

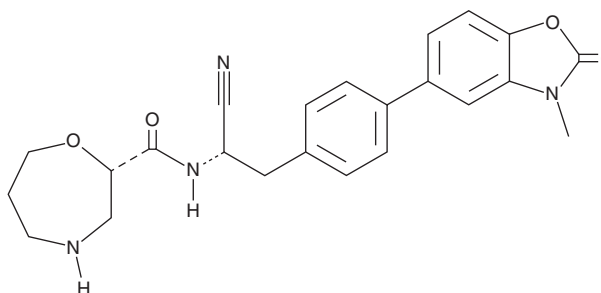
**FW:** 420.5

**Purity:** ≥98%

**Supplied as:** A 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

AZD 7986 is supplied as a solid. A stock solution may be made by dissolving the AZD 7986 in the solvent of choice, which should be purged with an inert gas. AZD 7986 is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of AZD 7986 in these solvents is approximately 2 and 1 mg/ml, respectively.

### Description

AZD 7986 is a reversible and covalent inhibitor of dipeptidyl peptidase 1 (DPP-1), also known as cathepsin C (IC<sub>50</sub> = 3.9 nM).<sup>1,2</sup> It is selective for DPP-1 over cathepsins S, -L, -B, -K, -D, -E, -Z, -H, and -G (IC<sub>50</sub>s = >20 μM for all), as well as a panel of greater than 200 enzymes, receptors, ion channels, and transporters. AZD 7986 inhibits activation of the DPP-1 targets neutrophil elastase, proteinase 3, and cathepsin G in human bone marrow-derived CD34<sup>+</sup> neutrophil progenitor cells (IC<sub>50</sub>s = 61.7, 208.9, and 114.8 nM, respectively). *Ex vivo*, AZD 7986 (0.2, 2, and 20 mg/kg) inhibits activation of neutrophil elastase and proteinase 3 in rat bone marrow lysates. AZD 7986 suppresses the formation of pulmonary and circulating neutrophil extracellular traps (NETs), increases survival, and reduces the number of lung metastases in a 4T1 murine mammary carcinoma model.<sup>3</sup>

### References

1. Doyle, K., Lönn, H., Käck, H., *et al.* Discovery of second generation reversible covalent DPP1 inhibitors leading to an oxazepane amidoacetonitrile based clinical candidate (AZD7986). *J. Med. Chem.* **59(20)**, 9457-9472 (2016).
2. Korkmaz, B., Lesner, A., Marchand-Adam, S., *et al.* Lung protection by cathepsin C inhibition: A new hope for COVID-19 and ARDS? *J. Med. Chem.* **63(22)**, 13258-13265 (2020).
3. Xiao, Y., Cong, M., Li, J., *et al.* Cathepsin C promotes breast cancer lung metastasis by modulating neutrophil infiltration and neutrophil extracellular trap formation. *Cancer Cell* **39(3)**, 423-437 (2021).

#### 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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