

PRODUCT INFORMATION



Linezolid

Item No. 15012

CAS Registry No.: 165800-03-3

Formal Name: N-[[[(5S)-3-[3-fluoro-4-(4-morpholinyl)phenyl]-2-oxo-5-oxazolidinyl]methyl]-acetamide

Synonym: PNU 100766

MF: C₁₆H₂₀FN₃O₄

FW: 337.4

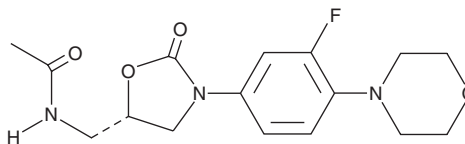
Purity: ≥98%

UV/Vis.: λ_{max}: 258 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

Linezolid is supplied as a crystalline solid. A stock solution may be made by dissolving the linezolid in the solvent of choice, which should be purged with an inert gas. Linezolid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of linezolid in these solvents is approximately 1, 20, and 30 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of linezolid can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of linezolid in PBS (pH 7.2) is approximately 0.1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Linezolid is a synthetic oxazolidinone antibiotic with activity against a wide range of Gram-positive bacteria, including resistant strains of several species, such as methicillin-resistant *S. aureus* (MRSA), penicillin-resistant pneumococci, vancomycin-resistant enterococci, various anaerobic bacteria, and several mycobacteria and streptococci (MICs = 2-4 mg/ml).¹ Linezolid inhibits protein synthesis by binding to domain V of the 23S ribosomal RNA of the 50S subunit of bacterial ribosomes. *In vivo*, linezolid (50 mg/kg) reduces pulmonary MRSA load in spontaneously breathing and mechanically ventilated rabbits.² Formulations containing linezolid have been used to treat MRSA infections.

References

1. Ager, S. and Gould, K. Clinical update on linezolid in the treatment of gram-positive bacterial infections. *Infect. Drug Resist.* **5**, 87-102 (2012).
2. Pauchard, L.A., Blot, M., Bruyere, T., et al. Linezolid and atorvastatin impact on pneumonia caused by *Staphylococcus aureus* in rabbits with or without mechanical ventilation. *PLoS One* **12(11)**, e0187187 (2017).

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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