

Product Data Sheet

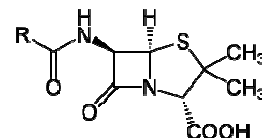
Cat # ABT-060-01
Cat # ABT-060-10

Penicillin G, Sodium (Pharma Grade)
Penicillin G, Sodium (Pharma Grade)

Size: 1 g
Size: 10 g (Bulk or Custom)

General Information

Penicillin (sometimes abbreviated PCN or pen) is a group of antibiotics derived from Penicillium fungi. Penicillin antibiotics are historically significant because they are the first drugs that were effective against many previously serious diseases such as syphilis and Staphylococcus infections. Penicillins are still widely used today, though many types of bacteria are now resistant. All penicillins are Beta-lactam antibiotics and are used in the treatment of bacterial infections caused by susceptible, usually Gram-positive, organisms. The term "penicillin" can also refer to the mixture of substances that are naturally, and organically, produced.



Molecular Formula:
(C₁₆H₁₈N₂O₄S)

Molecular Weight:
334.390 g/mol

β-Lactam antibiotics work by inhibiting the formation of peptidoglycan cross-links in the bacterial cell wall. The β-lactam moiety (functional group) of penicillin binds to the enzyme (DD-transpeptidase) that links the peptidoglycan molecules in bacteria, which weakens the cell wall of the bacterium (in other words, the antibiotic causes cytolysis or death due to osmotic pressure). In addition, the build-up of peptidoglycan precursors triggers the activation of bacterial cell wall hydrolases and autolysins, which further digest the bacteria's existing peptidoglycan.

Penicillins, like other β-lactam antibiotics, block not only the division of bacteria, including cyanobacteria, but also the division of cyanelles, the photosynthetic organelles of the glaucophytes, and the division of chloroplasts of bryophytes. In contrast, they have no effect on the plastids of the highly developed vascular plants. This supports the endosymbiotic theory of the evolution of plastid division in land plants.

Test Items	Standard	Results
Aspect	white crystalline powder	white crystalline powder
Identification	Not been Inactivated solutions all are antibacterial Infrared light absorption pattern should be the same as the reference	Complies
Check Absorbance Acidity	≤0.10 at 280nm 0.80-0.88 at 264nm 5.0-7.5	0.85 5.5
Clarity and color of solution	Should comply	Complies
Solubility	about 25mg/ml water	
Water	≤0.5%	0.43%
Bacterial endotoxins	≤0.01EU/100U	Complies
Sterile	Should comply	Complies
Assay	C ₁₆ H ₁₇ KN ₂ O ₄ S≥96.0% count by anhydrous	98.8%
Conclusion	The product is tested in accordance with QB. The Results Complies	

Usage: This item is for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

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