

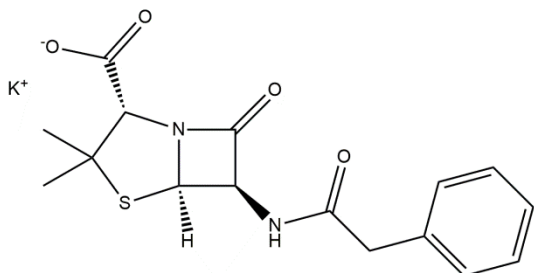
# Penicillin G Potassium

04/21

**ALTERNATE NAMES:** Benzylpenicillin potassium; potassium;(2S,5R,6R)-3,3-dimethyl-7-oxo-6-[(2-phenylacetyl)amino]-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate

**CATALOG #:** B3131-10G 10 g  
B3131-50G 50 g

**STRUCTURE:**



**MOLECULAR FORMULA:** C<sub>16</sub>H<sub>17</sub>KN<sub>2</sub>O<sub>4</sub>S

**MOLECULAR WEIGHT:** 372.5

**CAS NUMBER:** 113-98-4

**APPEARANCE:** White to off-white powder

**PURITY:** ≥ 98%

**POTENCY:** 1440 - 1680 U/mg

**SOLUBILITY:** ~100 mg/ml in water

**pH (6% solution at 25 °C)** 5.5-7.5

**DESCRIPTION:** Penicillin is a broad-spectrum β-lactam antibiotic. It binds to penicillin binding proteins (PBP). PBP catalyzes the synthesis of peptidoglycan, which is an important component of the bacterial cell wall. PBP catalyzes a pentaglycine crosslink between the alanine and lysine residues providing additional strength to the cell wall. The integrity of the cell wall is severely compromised without a pentaglycine crosslink, which leads to cell lysis and death. Penicillin G shows MIC<sub>90</sub> values of 0.03, 1 and 4 μg/ml for penicillin-susceptible, -intermediate and -resistant strains of *S. pneumoniae*, respectively. Resistance to β-lactams is commonly due to cells containing plasmid encoded β-lactamases.

**STORAGE TEMPERATURE:** 4 °C. Protect from air and moisture.

**HANDLING:** Do not take internally. Wear gloves and mask when handling the product! Avoid contact by all modes of exposure.

**REFERENCE:** Pankuch, G.A., Lichtenberger, C., Jacobs, M.R., et al. Antipneumococcal activities of RP 59500 (quinupristin-dalfopristin), penicillin G, erythromycin, and sparfloxacin determined by MIC and rapid time-kill methodologies. *Antimicrob. Agents Chemother.* 40(7), 1653-1656 (1996).

**RELATED PRODUCTS:**

EZSolution™ Penicillin/Streptomycin, Sterile-Filtered (100X) (Cat. No. 2502)  
 EZSolution™ Penicillin/Streptomycin/Amphotericin B, Sterile-Filtered (100X) (Cat. No. 2505)  
 Penicillin G sodium (Cat. No. 2503)  
 Penicillin G potassium, USP (Cat. No. 2504)  
 Ampicillin sodium (Cat. No. 2484)

**DISCLAIMER:** **FOR RESEARCH USE ONLY! Not to be used on humans.**