

PRODUCT INFORMATION



Penicillin G-d₅ (potassium salt)

Item No. 36772

Formal Name: (2S,5R,6R)-3,3-dimethyl-7-oxo-6-(2-(phenyl-d₅)acetamido)-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate, monopotassium salt

Synonym: Benzylpenicillin-d₅

MF: C₁₆H₁₂D₅N₂O₄S • K

FW: 377.5

Chemical Purity: ≥90% (Penicillin G)

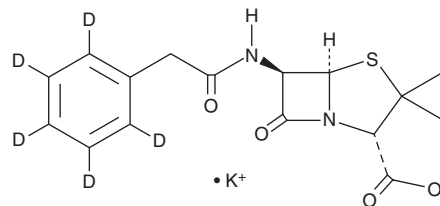
Deuterium

Incorporation: ≥99% deuterated forms (d₁-d₅); ≤1% d₀

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

Penicillin G-d₅ is intended for use as an internal standard for the quantification of penicillin G (Item No. 21615) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Penicillin G-d₅ (potassium salt) is supplied as a solid. A stock solution may be made by dissolving the penicillin G-d₅ (potassium salt) in the solvent of choice, which should be purged with an inert gas. Penicillin G-d₅ (potassium salt) is slightly soluble in methanol and water.

Description

Penicillin G is a β-lactam antibiotic that is effective mainly for Gram-positive bacteria.² It has MIC₉₀ values of 0.03, 1, and 4 μg/ml for penicillin-susceptible, -intermediate, and -resistant strains of *S. pneumoniae*, respectively, and 16-128 μg/ml for various *Bacteroides* isolates in a broth dilution assay.^{1,3} Formulations containing penicillin G have been used for the treatment of bacterial infections and in livestock production.

References

1. Aldridge, K.E., Sanders, C.V., Janney, A., *et al.* Comparison of the activities of penicillin G and new beta-lactam antibiotics against clinical isolates of *Bacteroides* species. *Antimicrob. Agents Chemother.* **26**(3), 410-413 (1984).
2. Demain, A.L. Production of beta-lactam antibiotics and its regulation. *Proc. Natl. Sci. Counc. Repub. China B.* **15**(4), 251-265 (1991).
3. Pankuch, G.A., Lichtenberger, C., Jacobs, M.R., *et al.* Antipneumococcal activities of RP 59500 (quinupristin-dalfopristin), penicillin G, erythromycin, and sparflaxacin determined by MIC and rapid time-kill methodologies. *Antimicrob. Agents Chemother.* **40**(7), 1653-1656 (1996).

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.

WARRANTY AND LIMITATION OF REMEDY

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