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PRODUCT INFORMATION



Penicillin V-d₅ (potassium salt)

Item No. 26786

Formal Name: (2S,5R,6R)-3,3-dimethyl-7-oxo-6-[[2-(phenoxy-2,3,4,5,6-d₅)acetyl]amino]-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, monopotassium salt

Synonym: Phoxymethylpenicillin-d₅

MF: C₁₆H₁₂D₅N₂O₅S • K

FW: 393.5

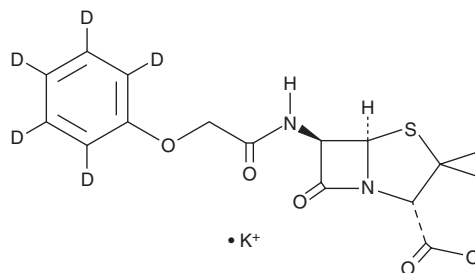
Chemical Purity: ≥98% (Penicillin V)

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

Supplied as: A solid

Storage: -20°C

Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Penicillin V-d₅ (potassium salt) is intended for use as an internal standard for the quantification of penicillin V (Item No. 23635) 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).

Description

Penicillin V is a β-lactam antibiotic that inhibits the growth of bacteria.¹⁻³ *In vitro*, penicillin V inhibits the growth of clinical isolates of *Streptococci* (MICs = 0.004-0.008 mg/L) and *C. difficile* (MICs = 1 to >256 mg/L).^{1,2} Penicillin V also inhibits growth of *S. aureus in vitro* (MIC = 0.016 mg/L) and *in vivo* in a thigh model of infection in mice.³ It inhibits the growth of *S. pyogenes* in mice following one or two dose therapy with curative dose (CD₅₀) values of 0.207 and 0.031 mg, respectively.⁴ Penicillin V (100 mg/kg per day, p.o.) prevents experimental acute otitis media in rats when administered prior to infection by pneumococci.⁵ Formulations containing penicillin V have been used to treat bacterial infections of the skin, throat, ear, mouth, and respiratory tract.

References

1. Kamme, C. and Petersson, A.C. *Scand. J. Infect. Dis.* **25**(1), 37-42 (1993).
2. Norén, T., Alriksson, I., Akerlund, T., et al. *Clin. Microbiol. Infect.* **16**(8), 1104-1110 (2010).
3. Overbosch, D., Mattie, H., and Van Furth, R. *Br. J. Clin. Pharmacol.* **19**(5), 657-668 (1985).
4. Powell, H.M. and Culbertson, C.G. *Proc. Soc. Exp. Biol. Med.* **90**(1), 186-187 (1955).
5. Hermansson, A., Prellner, K., and Hellström, S. *Acta Otolaryngol.* **109**(1-2), 119-123 (1990).

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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