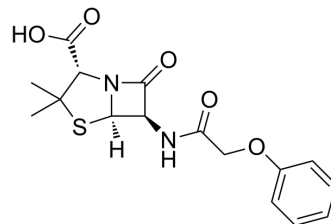


Penicillin V

Cat. No.:	HY-B0975A
CAS No.:	87-08-1
Molecular Formula:	C ₁₆ H ₁₈ N ₂ O ₅ S
Molecular Weight:	350.39
Target:	Antibiotic; Bacterial
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Penicillin V (Phenoxymethylpenicillin) is a potent and orally active antibiotic. Penicillin V shows antibacterial activity for Streptococci, Clostridium difficile and staphylococcus aureus. Penicillin V has the potential for the research of otitis, sinusitis, pharyngitis and tonsillitis ^{[1][2][3][4]} .								
IC₅₀ & Target	β-lactam								
In Vitro	<p>Penicillin V (0.002-8.0 mg/L) inhibits the growth of Streptococci, with the minimum inhibitory concentrations (MICs) of 0.004-0.008 mg/L^[2].</p> <p>Penicillin V (0.002-8.0 mg/L) shows antibacterial activity for Clostridium difficile with an MIC₅₀ value of 4.0 mg/L and an MIC₉₀ value of 8.0 mg/L^[3].</p> <p>Penicillin V (0.004-0.063 mg/L; 18 h) inhibits the growth of Staphylococcus aureus, with an MIC value of 0.016 mg/L^[4].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>								
In Vivo	<p>Penicillin V (0.063-0.25 mg/kg; s.c.) inhibits the outgrowth of S. aureus in mice thigh muscle^[4].</p> <p>Penicillin V (2 mg/kg; s.c.) exhibits the plasma half-life (61 min) and mean AUC (0.47 mg/L·h)^[4].</p> <p>Penicillin V (100 mg/kg; p.o. once daily for 5 d) avoids the fulminant infection of acute purulent otitis media (AOM) in rats^[5].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Animal Model:</td> <td>Specific pathogen free (SPF) male Swiss mice (20-25 g) are inoculated S. aureus^[4]</td> </tr> <tr> <td>Dosage:</td> <td>0.063, 0.13, 0.25 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>S.c.</td> </tr> <tr> <td>Result:</td> <td>Decreased the number of CFU (1.34×10⁷ counts/mL) compared to controls (3.5×10⁷ counts/mL) at the dose of 0.25 mg/kg.</td> </tr> </table>	Animal Model:	Specific pathogen free (SPF) male Swiss mice (20-25 g) are inoculated S. aureus ^[4]	Dosage:	0.063, 0.13, 0.25 mg/kg	Administration:	S.c.	Result:	Decreased the number of CFU (1.34×10 ⁷ counts/mL) compared to controls (3.5×10 ⁷ counts/mL) at the dose of 0.25 mg/kg.
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REFERENCES

[1]. Sabath LD. Et, al. Phenoxymethylpenicillin (penicillin V) and phenethicillin. Med Clin North Am. 1970 Sep;54(5):1101-11.

[2]. Kamme C, et, al. In vitro effect on group A streptococci of loracarbef versus cefadroxil, cefaclor and penicillin V. Scand J Infect Dis. 1993;25(1):37-42.

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[4]. Overbosch D, et, al. Comparative pharmacodynamics and clinical pharmacokinetics of phenoxymethylpenicillin and pheneticillin. *Br J Clin Pharmacol*. 1985 May;19(5):657-68.

[5]. Hermansson A, et, al. Prevention of experimental acute otitis media with penicillin V. *Acta Otolaryngol*. Jan-Feb 1990;109(1-2):119-23.

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Caution: Product has not been fully validated for medical applications. For research use only.

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