Potassium clavulanate cellulose

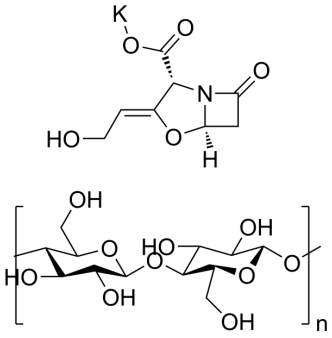
Cat. No.: HY-19964

Molecular Formula: $C_8H_9NO_5K.(C_6H_{10}O_5)n$

Target: Bacterial; Antibiotic; Beta-lactamase

Pathway: Anti-infection

Storage: 4°C, sealed storage, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro	DMSO : < 1 mg/mL (insoluble or slightly soluble) H_2O : < 0.1 mg/mL (insoluble)

BIOLOGICAL ACTIVITY

Description	Potassium clavulanate cellulose (Potassium clavulanate:cellulose (1:1)) is a mixture of potassium clavulanate and cellulose, is a bacterial β-lactamase inhibitor. Clavulanate potassium is a form of Clavulanic acid. Clavulanate potassium fights bacteria that resistant to penicillins and other antibiotics. Potassium clavulanate with the combination of amoxicillin can be used for the research of different infections caused by bacteria, such as sinusitis, pneumonia, ear infections, bronchitis, urinary tract infections, and infections of the skin[1][2].
IC_{50} & Target	β-lactam
In Vitro	Clavulanate potassium (2 μg/mL) is susceptive to β-lactamase-positive and β-lactamase-negative Bacteroides spp. and Fusobacterium spp. with the combination of amoxicillin (4 μg/mL) and ticarcillin (64 μg/mL)[1]. Clavulanate potassium (16 μg/mL) inhibits B. intermedius, B. bivius, B. disiens, B. oris, B. buccae, B. buccalis and B. loeschei with MIC_{50} values of 8 μg/mL[1]. Clavulanate potassium (16 μg/mL) inhibits B. melaninogenicus, B. oralis and F. varium with MIC_{50} values of 16 μg/mL[1]. Clavulanate potassium (2 μg/mL) raises amoxicillin susceptibility rates for β-lactamase-positive Bacteroides species and fusobacteria from 41.3 to 90.8% and from 64.2 to 88.7%, respectively[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Clavulanate potassium (125 mg; 20 d) protects 75% of mice with experimental pneumonitis compared with no survivors in the control group[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Behav Neurosci. 2019 Apr;133(2):247-254.
- J Pharmacol Tox Met. 2019 Jan - Feb;95:79-85.

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REFERENCES

[1]. Appelbaum PC, et al. Beta-lactamase production and susceptibilities to amoxicillin, amoxicillin-clavulanate, ticarcillin, ticarcillin-clavulanate, cefoxitin, imipenem, and metronidazole of 320 non-Bacteroides fragilis Bacteroides isolates and 129 fusobacteria from 28 U.S. centers. Antimicrob Agents Chemother. 1990 Aug;34(8):1546-50.

[2]. Beale AS, et al. Comparative activities of amoxycillin, amoxycillin/clavulanic acid and tetracycline against Chlamydia trachomatis in cell culture and in an experimental mouse pneumonitis. J Antimicrob Chemother. 1991 May;27(5):627-38.

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