

Immobilized Penicillin G acylase

A1435677

Storage temperature: 2-8°C.

Introduction

It produces 6-APA (6-aminopenicillanic acid) from Penicillin G.

Standard

Activity ≥ 500 U/g wet weight.

Size of immobilization support 150~300 μm (> 95%).

Water content < 60%.

Enzyme assay One unit (U) represents the amount of enzyme required for adding 1 μmol NaOH per min to adjust pH with degradation of Pen G to 6-APA in 50mM K-phosphate, pH 8.0, at 28°C.

Application

6-APA production from Penicillin G.

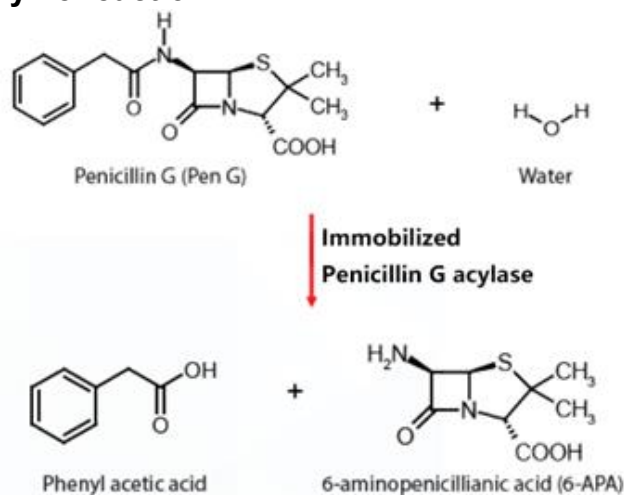
Characteristics

- Very high specific activity.
- High substrate selectivity.
- High stability (reusable more than 800 cycles).
- High production rate of 6-APA (more than 98.5%).

Reaction condition

pH	8.0 $\pm$ 0.2
Temperature	28~29°C
Solvent	Phosphate buffer or water
Enzyme amount	7~15 U/ml
Reaction time	2~3 hours

Scheme for enzyme reaction



Production instruction

Category	Contents
Materials	● Catabolic enzyme: Immobilized Penicillin G acylase (500U/g wet, 60% water content). ● Pen-G (penicillin G potassium). ● Water. ● 3M ammonium hydroxide. ● HPLC. ● Chromatography column (Hypersil ODS, 5μm, 125mm*4.6mm).
Condition	● pH: 7.9~8.0. ● Temperature: 28°C. ● CPC. ● Na: 215mM. ● Enzyme: 7~15 U/ml (with 130ml). ● Reaction solution: Water.
Step	● Remove the water after washing immobilized enzyme with water more than five times. ● Dissolve 215mM Pen G in 130ml water. ● Leave substrate in reactor at 28°C for 10 minutes. ● Pour the catabolic enzyme(Immobilized Penicillin G acylase 7~15 U/ml) in conversion reactor and measure time simultaneously. ● Adjust pH to 8.0 with 3M ammonium hydroxide. ● Extract 0.1ml reaction solution(supernatant) and dilute with water in 100ml flask. ● Measure the yield of 6-APA with HPLC by calculating peak area.