

Bicyclomycin benzoate

Catalog No: tcsc6253



Available Sizes

Size: 5mg

Size: 10mg

Size: 25mg

Size: 50mg

Size: 100mg



Specifications

CAS No:

37134-40-0

Formula:

$C_{19}H_{22}N_2O_8$

Pathway:

Anti-infection

Target:

Bacterial

Purity / Grade:

>98%

Solubility:

DMSO : 100 mg/mL (246.07 mM; Need ultrasonic)

Alternative Names:

FR2054

Observed Molecular Weight:

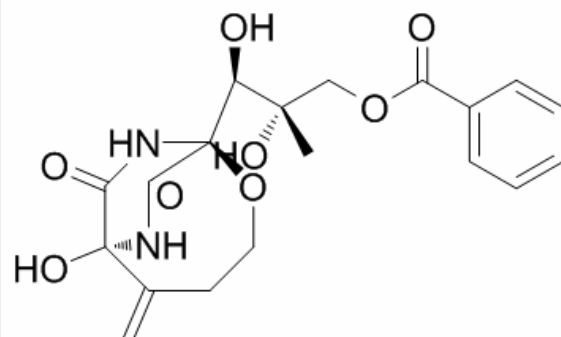
406.39

Product Description

Bicyclomycin benzoate is an antibiotic exhibiting activity against a broad spectrum of Gram-negative bacteria and against the Gram-positive bacterium.

In Vitro: The primary action of bicyclomycin is due to interference with the biosynthesis of lipoprotein and its assembly to peptidoglycan in the cell envelope of *E. coli*. At the lethal level, bicyclomycin is shown to inhibit the synthesis of RNA and protein in the growing cells of *E. coli* 15 THU^[1]. Bicyclomycin targets the rho transcription termination factor in *Escherichia coli*. Bicyclomycin is a modest rho inhibitor, can disrupt the rho molecular machinery thereby leading to a catastrophic effect caused by the untimely overproduction of proteins not normally expressed constitutively, thus leading to a toxic effect on the cells^[2]. The inhibition of rho poly(C)-stimulated hydrolysis of ATP by bicyclomycin has been found to proceed by a non-competitive, reversible pathway with respect to ATP ($K_i=20 \mu\text{M}$)^[3].

In Vivo: Bicyclomycin has low excretion rate after a single intramuscular dose of 50 mg/kg in rats. Bicyclomycin is well distributed in various tissues, and the highest concentration is observed in the kidney at 100 mg/kg^[4].



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