

# Vancomycin (hydrochloride)

Catalog No: tcsc0908



## Available Sizes

Size: 250mg

Size: 1g



## Specifications

### CAS No:

1404-93-9

### Formula:

$C_{66}H_{76}Cl_3N_9O_{24}$

### Pathway:

Anti-infection;Autophagy

### Target:

Bacterial;Autophagy

### Purity / Grade:

>98%

### Solubility:

DMSO : 24 mg/mL (16.15 mM; Need ultrasonic and warming); H<sub>2</sub>O : 33.33 mg/mL (22.43 mM; Need ultrasonic)

### Observed Molecular Weight:

1485.72

## Product Description

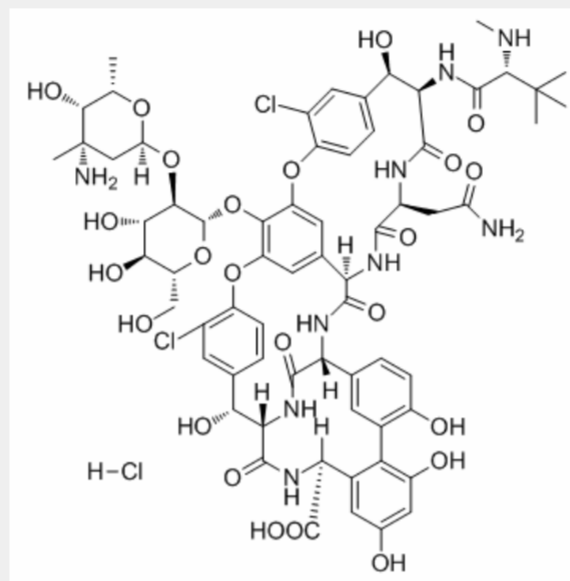
Vancomycin hydrochloride is an antibiotic for the treatment of **bacterial** infections. It acts by inhibiting the second stage of cell wall synthesis of susceptible bacteria. Vancomycin also alters the permeability of the cell membrane and selectively inhibits ribonucleic acid synthesis.

IC<sub>50</sub> & Target: Bacterial<sup>[1]</sup>

### *In Vitro*:

Vancomycin is a large glycopeptide compound with a molecular weight of 1450 Da<sup>[1]</sup>. Vancomycin is a unique glycopeptide structurally unrelated to any currently available antibiotic. It also has a unique mode of action inhibiting the second stage of cell wall synthesis of susceptible bacteria. Vancomycin is active against a large number of species of Gram-positive bacteria, such as *Staphylococcus aureus*, *Staph. epidermidis*, *Str. agalactiae*, *Str. bovis*, *Str. mutans*, *viridans streptococci*, *enterococci*<sup>[2]</sup>.

**In Vivo:** Vancomycin is administered intravenously, with a standard infusion time of at least 1 h, to minimize infusion-related adverse effects. Subjects with normal creatinine clearance, vancomycin has an  $\alpha$ -distribution phase of 30 min to 1 h and a  $\beta$ -elimination half-life of 6-12 h. The volume of distribution is 0.4-1 L/kg. The binding of vancomycin to protein ranges from 10% to 50%. Factors that affect the overall activity of vancomycin include its tissue distribution, inoculum size, and protein-binding effects<sup>[1]</sup>. Vancomycin treatment of infected mice is associated with improved clinical, diarrhea, and histopathology scores and survival during treatment<sup>[3]</sup>.



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