

Carbonic anhydrase-IN-2

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.

Biological Description

Description	Carbonic anhydrase-IN-2 is an orally active inhibitor of carbonic anhydrase (carbonic anhydrase) that shows antibacterial properties against multiple vancomycin-resistant Enterococcus (VRE) strains. It is applicable in research related to infections, such as those involving Enterococcus faecium (E. faecium).
Targets(IC50)	Carbonic Anhydrase
In vitro	Carbonic anhydrase-IN-2 (Compound 20) effectively inhibits the proliferation of various vancomycin-resistant enterococci (VRE) strains, including Enterococcus faecium (E. faecium) NR-31909 and Enterococcus faecalis (E. faecalis) NR-31971, with a MIC 50 of 184 nM and a MIC 90 of 3060 nM. It powerfully suppresses Enterococcus faecium α -carbonic anhydrase (E α -CA) with a K _i value of 31.6 nM and γ -carbonic anhydrase (E γ -CA) with a K _i value of 62.3 nM. Carbonic anhydrase-IN-2 demonstrates bacteriostatic activity against Enterococcus faecium NR-31909 over 24 hours. Against 12 intestinal symbiotic strains, including Lactobacillus, Bacteroides, and Bifidobacterium, it shows no inhibitory activity, with a MIC greater than 784 μ M over 18-20 hours. Additionally, Carbonic anhydrase-IN-2 (0-128 μ g/mL, 24 h) exhibits no significant cytotoxicity in African green monkey kidney cells, maintaining 95-100% cell viability.
In vivo	Carbonic anhydrase-IN-2 (Compound 20) (20 mg/kg, orally, once daily for 3 days, starting 1 hour post-infection) significantly increased the survival rate of BALB/c mice with sepsis-induced peritonitis from E. faecium (R-31909) infection.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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