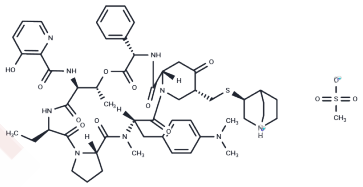
Data Sheet (Cat.No.TP2286)

TargetMol

Quinupristin (mesylate) (120138-50-3 free base)

Chemical Properties



CAS No. :

Formula: C53H68N9O10S·CH3SO3

Molecular Weight: 1118.3

Storage: Keep away from moisture
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	Quinupristin is a streptogramin antibiotic. Streptogramins, a class of antibiotics, is effective in the treatment of vancomycin-resistant Staphylococcus aureus and vancomycin-resistant Enterococcus, which are two of the most rapidly growing strains of multidrug-resistant bacteria. Streptogramins fall into two groups: streptogramin A and streptogramin B.
Targets(IC50)	Others
In vitro	In vitro: Quinupristin can bind to sequential sites located on the 50s subunit of the bacterial ribosome. Dalfopristin binding causes a conformational change in the ribosome that subsequently increases the binding of quinupristin. The combined actions of the two agents create a stable drug-ribosome complex causing inhibition of protein synthesis by prevention of peptide-chain formation, blockade of extrusion of newly formed peptide chains, and bacterial cell death [1].
In vivo	In vivo: The combination of quinupristin-dalfopristin (Q-D) and gentamicin was tested against two strains of gentamicin- and dalfopristin-susceptible methicillin-resistant Staphylococcus aureus (MRSA). A rabbit endocarditis model simulated the pharmacokinetics achieved in humans receiving intravenous injections of Q-D and gentamicin. For the MLSB-susceptible strain, a 4-day regimen reduced mean bacterial titers (MBT) in vegetations from 8.5 ± 0.8 logs CFU/g (control group) to 3.0 ± 0.9 (Q-D) and 2.6 ± 0.5 logs CFU/g (Q-D plus gentamicin). For the strain constitutively resistant to MLSB, a 4-day regimen reduced MBT in vegetations from 8.7 ± 0.9 logs CFU/g (control group) 5.2 ± 2.2 (Q-D) and 5.1 ± 2.4 log CFU/g (Q-D plus gentamicin). The differences between control and treatment groups were significant for both strains, although there was no significant difference between treatment groups [2].

Solubility Information

Solubility	DMSO: Soluble, Ethanol: Soluble, (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.8942 mL	4.4711 mL	8.9421 mL
5 mM	0.1788 mL	0.8942 mL	1.7884 mL
10 mM	0.0894 mL	0.4471 mL	0.8942 mL
50 mM	0.0179 mL	0.0894 mL	0.1788 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Noeske, J. ,Huang, J.,Olivier, N.B., et al. Synergy of streptogramin antibiotics occurs independently of their effects on translation. Antimicrobial Agents and Chemotherapy 58(9), 5269-5279 (2014).
Ghiselli R, Giacometti A, Cirioni O, Mocchegiani F, Orlando F, Del Prete M, D'Amato G, Scalise G, Saba V. Quinupristin/dalfopristin bonding in combination with intraperitoneal antibiotics prevent infection of knitted polyester graft material in a subcutaneous rat pouch model infected with resistant Staphylococcus epidermidis. Eur J Vasc Endovasc Surg. 2002 Sep;24(3):230-4.
Potel G. Value of Synercid in clinical practice: from temporary approval to clinical trial authorization. Presse Med. 2001 Sep 8;30(25 Pt 2):XIX-XXII.