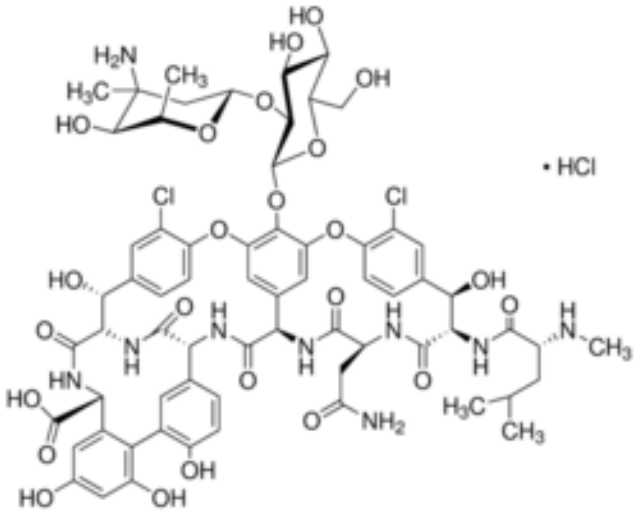
ANTIBIOTICS USED FOR RESISTACE BACTERIA

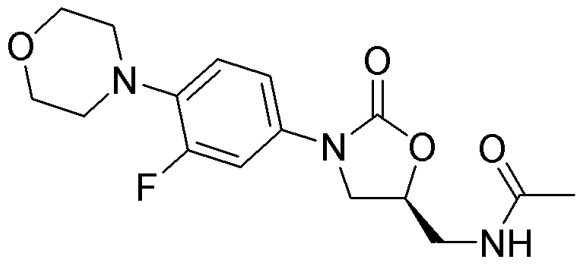
1. Vancomicin



Vancomycin is used to treat infections caused by bacteria. It belongs to the family of medicines called antibiotics. Vancomycin works by killing bacteria or preventing their growth. Vancomycin will not work for colds, flu, or other virus infections.

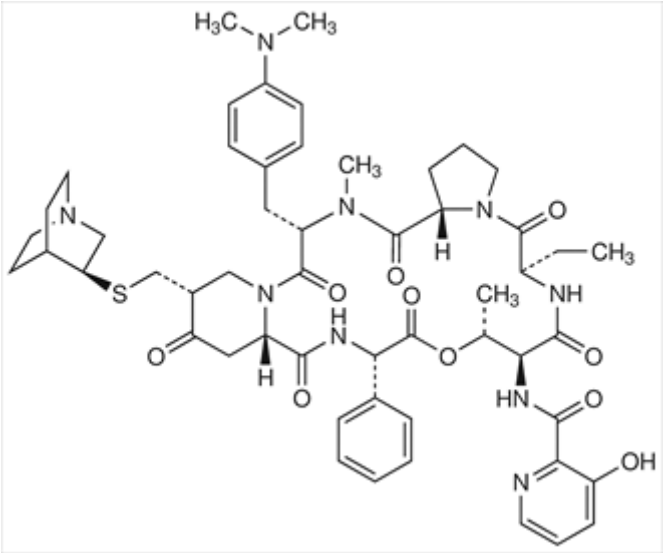
Vancomycin is used to treat infections in many different parts of the body. It is sometimes given with other antibiotics. Vancomycin is also used in patients with heart valve disease (e.g., rheumatic fever) or prosthetic (artificial) heart valves who are allergic to penicillin. Under certain circumstances, this medicine also may be used to prevent endocarditis (inflammation of the lining of the heart) in these patients who are having dental work done or surgery on the upper respiratory tract (for example, nose or throat). Vancomycin given by injection is used mainly for serious infections for which other medicines may not work. However, this medicine may cause some serious side effects, including damage to your hearing and kidneys. These side effects may be more likely to occur in elderly patients. You and your doctor should talk about the good this medicine will do as well as the risks associated with receiving it. This product is available in Solution and Powder for Solution forms.

2. Linezolid



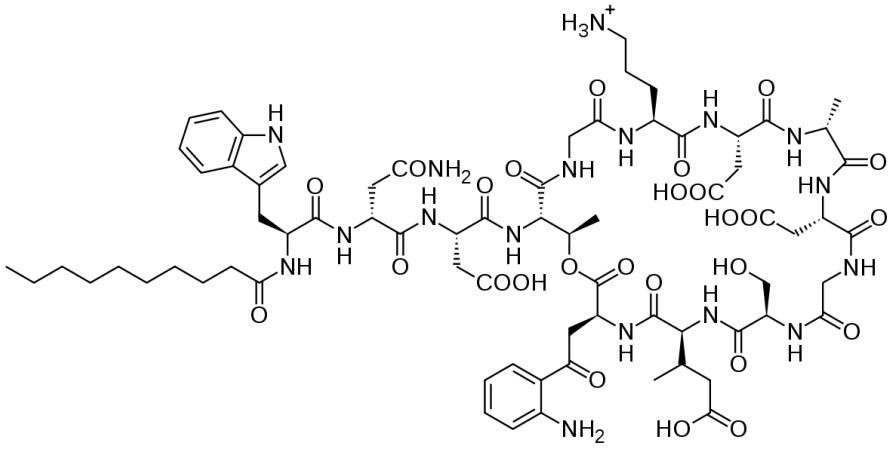
Linezolid is a synthetic antibiotic, the first of the oxazolidinone class, used for the treatment of infections caused by multi-resistant bacteria including streptococcus and methicillin-resistant Staphylococcus aureus (MRSA). The drug works by inhibiting the initiation of bacterial protein synthesis. For the treatment of bacterial infections caused by susceptible strains of vancomycin resistant *Enterococcus faecium*, *Staphylococcal aureus* (methicillin resistant and susceptible strains), *Streptococcus pneumoniae*, *Streptococcus pyogenes*, *Streptococcus agalactiae*. Linezolid is a synthetic antibacterial agent of the oxazolidinone class of antibiotics. It has in vitro activity against aerobic Gram positive bacteria, certain Gram negative bacteria and anaerobic microorganisms. It selectively inhibits bacterial protein synthesis through binding to sites on the bacterial ribosome and prevents the formation of a functional 70S-initiation complex. Specifically, linezolid binds to a site on the bacterial 23S ribosomal RNA of the 50S subunit and prevents the formation of a functional 70S initiation complex, which is an essential component of the bacterial translation process. The results of time-kill studies have shown linezolid to be bacteriostatic against enterococci and staphylococci. For streptococci, linezolid was found to be bactericidal for the majority of strains. Linezolid is also a reversible, nonselective inhibitor of monoamine oxidase. Therefore, linezolid has the potential for interaction with adrenergic and serotonergic agents.

3. Quinupristin/ Dalfopristin



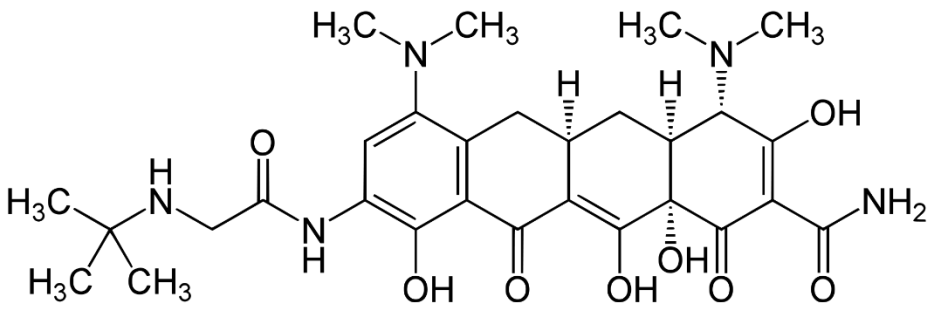
Quinupristin and dalfopristin are intravenously administered, streptogramin antibiotics used in fixed combination to treat severe bacterial infections due to susceptible organisms including methicillin resistant Staphylococcus aureus (MRSA). The fixed combination of quinupristin and dalfopristin is associated with a low rate of serum enzyme elevations during therapy but has not been convincingly linked to instances of clinically apparent liver injury. Quinupristin, a derivative of pristamycin IA, and dalfopristin, a derivative of pristamycin IIA, are synergistic in activity and are used in a fixed dose combination in a ratio of 30:70 by weight. This combination binds and inhibits the activity of the 50S subunit of bacterial ribosomes, which yields potent bactericidal activity against many gram positive bacteria including methicillin resistant forms of Staphylococcus aureus (MRSA). Quinupristin and dalfopristin also have activity against some gram negative bacteria including Enterococcus species.

4. Daptomicin



Daptomycin is a lipopeptide antibiotic that kills susceptible gram positive bacteria by disrupting their membrane potential. It is a naturally-occurring compound found in the soil bacterium *Streptomyces roseosporus*. Antibiotics are used in the treatment of infections caused by bacteria. They work by killing bacteria or preventing their growth. Daptomycin will not work for colds, flu, or other virus infections. It was approved in September 2003 for the treatment of complicated skin and soft tissue infections. It has a safety profile similar to other agents commonly administered to treat gram-positive infections. Daptomycin is a 13 member amino acid cyclic lipopeptide antibiotic active against Gram-positive bacteria only. It has proven in vitro activity against enterococci (including glycopeptide-resistant Enterococci (GRE)), staphylococci (including methicillin-resistant *Staphylococcus aureus*), streptococci and corynebacteria. Daptomycin is derived from the fermentation product of Streptomyces roseosporus.

5. Tigecycline



Tigecycline is an antibiotic used to treat a number of bacterial infections. It is a glycylcycline that is administered intravenously. It was developed in response to the growing rate of antibiotic resistance in bacteria such as Staphylococcus aureus, Acinetobacter baumannii, and E. coli. Tigecycline is an injectable antibiotic used for the treatment of infections caused by susceptible bacteria. Tigecycline is similar to tetracycline antibiotics and has activity against a large number of bacteria. Tigecycline binds to bacterial ribosomes which produce the cell's proteins. The binding prevents bacterial ribosomes from producing important proteins needed for bacterial growth and multiplication. Tigecycline prevents bacteria from multiplying, but it does not kill bacteria. Tigecycline was approved by the FDA in June 2005.