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SOLID PHASE SYNTHESIS OF TWO MURAMYL PENTAPEPTIDE DERIVATIVES

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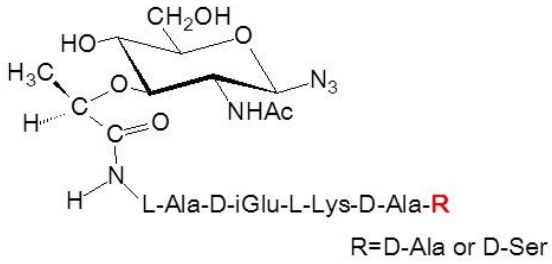
Vancomycin is a glycopeptide antibiotic, which inhibits the synthesis of murein in Gram-positive bacteria. It was first isolated in 1956 from *Streptomyces orientalis*. The clinical use of vancomycin has become widespread in 1958 [1,2]. It is called a drug of last resort. A serious problem in hospitals is the emergence of vancomycin-resistant strains of VRE (Vancomycin-Resistant *Enterococcus*) and VRSA (Vancomycin-resistant *Staphylococcus aureus*). Its mechanism of action is an inhibition of the biosynthesis of cell wall fragments of bacterial peptidoglycan. Antibiotic interacts with the C-terminal fragment peptidoglycan cell wall of *Staphylococcus aureus* [3]. Five hydrogen bonds inhibit cross-linking of the peptidoglycan polymerizing blocks. The weakened cell wall is not able to withstand the osmotic pressure inside cells, which leads to the death of the bacteria [1,4,5]. Using solid phase peptide synthesis we synthesized two muramyl pentapeptides to study their interactions with vancomycin using NMR spectroscopy.



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