Interactions of beta lactamase from MRSA and complexes of metallopolymers with penicillin like antibiotics

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Methicillin resistant *Staphylococcus aureus* (MRSA) is one of the most prevalent pathogens that account for severe nosocomial infections in millions of patients annually [1]. High resistance to beta-lactam antibiotics exhibited by this organism can be majorly attributed to its ability to produce a class of enzymes called beta-lactamases. Our team investigated the protective effect of a group of charged metallopolymers on antibiotics like penicillin, which are usually hydrolyzed by beta-lactamases, thus making them ineffective. For this purpose, we employed several biochemical and structural approaches to study interactions of these recombinant enzymes with conjugate complexes of penicillin and metallopolymers *in vitro* [2]. Recombinant enzymes are often modified in order to improve their expression, yield and structural studies. This study analyzed the effects of different modifications of recombinant beta-lactamases on their stability and activity *in vitro*. Comparison of enzymatic characteristics and the interactions of modified enzymes with conjugates of penicillin and metallopolymers is discussed.

References:

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