Structure and kinetics of the beta-lactamase mutants S70A and K73H from Staphylococcus aureus PC1.

Title: Structure and kinetics of the beta-lactamase mutants S70A and K73H from Staphylococcus aureus PC1.

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Abstract: Two mutant beta-lactamases from Staphylococcus aureus PC1 which probe key catalytic residues have been produced by site-directed mutagenesis. The kinetic and catalytic properties of the wild-type and mutant enzymes have been compared. The structures of the wild-type and K73H mutant enzymes have been determined by X-ray crystallographic analysis. The wild-type enzyme was crystallized in the presence of clavulanic acid, and a complex with the inhibitor was determined at 2.1 Å resolution. The electron density map showed no indication of substrate binding.

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