Biochemical studies of chaperone/usher assembly pathway

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The chaperone/usher machinery helps in the binding of harmful bacteria to humans and thereby contributes to disease. Ushers are a type of proteins that will help in this process. Ushers are predicted to consist of several other small proteins. These could be targeted by drugs to combat bacterial diseases.

In this report, a novel 109-amino acid protein segment (usher middle domain) of the usher from *Yesinia pestis* (plague-causing bacterium) was isolated and characterized. This protein is highly soluble and exists as single units. From the experiments performed to study the stability of the protein it was found that this protein is stable and can withstand higher temperatures. From the binding experiments it ws found that this protein does not bind other components of the usher protein, which suggests that it is not involved in the recognition of the usher complex, but performs a different yet unknown function.

Various other isolated protein segments (barrel and barrel with C-terminal domain) of usher also were isolated and partially characterized.

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