

## Abstract

The mosquitocidal proteins, Cyt2Aa and Cry4Ba, produced from *Bacillus thuringiensis* show synergistic activity against mosquito larvae but the synergistic mechanism is still unclear. Some hypothesis suggested that the interaction between Cyt2Aa and Cry4Ba on lipid membrane could facilitate their synergism. In this study the biochemical techniques such as SDS-PAGE, non-denaturing-PAGE and gel-filtration chromatography were used to investigate Cyt2Aa and Cry4Ba interaction. In addition, the surface plasmon resonance (SPR) technique was developed to detect the interaction between both toxins on membrane by using a lipid bilayer-coated gold chip as a biosensor. The results shows no interaction between Cyt2Aa and Cry4Ba in solution but in presence of membrane, results from SPR suggests that Cry4Ba bind to Cyt2Aa on lipid membrane but did not directly bind to lipid membrane. This interaction could explain their synergistic mechanism in which Cyt toxin acts as a receptor for Cry toxin.