

**Title in English:** Elicitins impact on the proteome of tobacco

**Abstract in English:**

Cryptogein is a proteinaceous elicitor secreted by an oomycete *Phytophthora cryptogea* that can induce resistance to *P. parasitica* in tobacco plants. On the basis of previous computer modeling, a series of cryptogein mutants was prepared with altered abilities to bind sterols, phospholipids or both. The sterol binding and phospholipid transfer activities corresponded to expectations based on the structural data reported previously. Induction of synthesis of reactive oxygen species (ROS) in tobacco cells suspension and proteomic analysis of intercellular fluid changes in tobacco leaves triggered by these mutant elicitors were not proportional to their ability to bind or transfer sterols and phospholipids. However, changes in the intercellular proteome corresponded to transcription levels of defense genes and resistance to *P. parasitica* and structure-prediction of mutants did not reveal any significant changes in protein structure. These results suggest, contrary to previous proposals, that the sterol-binding ability of cryptogein and its mutants, and the associated conformational change in the  $\omega$ -loop, might not be principal factors in either ROS production or resistance induction. Nevertheless results support importance of  $\omega$ -loop for interaction of the elicitor with the high affinity binding site on the plasma membrane of tobacco cells.