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Studied of proteins expressed in plant host-pathogen interactions

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Microbial virulence towards both plants and animals involves multifactorial processes through which the pathogen deploys a multitude of weapons to overcome hostile conditions in the host.

Interactions between plant pathogenic bacteria and their hosts are complex and require that the pathogen both adapt to *in planta* environment and modulate the physiology of the host.

Pseudomonas syringae infects a wide range of susceptible plants and causes mainly localized necrosis in infected tissues.

We used *P. syringae* pv. *tabaci* causing wild fire disease of tobacco as a model to elucidate the molecular genetic and biochemical events that determine recognition specificity and the subsequent induction of disease resistance inplant host-pathogen interactions.

Many known *P. syringae* pathogenicity and virulence determinants, including *hrp/hrc* and *avr* genes, are induced upon inoculation into plant tissue. Thus, we have grown bacteria in *hrp*-inducing medium similar to plant environments instead of plant inoculations. We then extracted proteins from cultures and performed 2-D.

Results indicated that *P. syringae* pv. *tabaci* grown in *hrp*-inducing medium has induced 25 proteins and repressed 21 proteins, suggesting that these induced proteins may play important functions during infections.