

### Proteome-level investigation of host response to pathogen infection

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The pathogens that infect living animals and cause disease have evolved the ability to overcome the immune resistance of their hosts to infection [1]. Pathogens must be able to colonize and replicate in specific sites within a living host. Moreover, they must produce certain proteins that result in a level of host damage. Failure to avoid the host's immune system is very often associated with activation of the hypersensitive reaction. This reaction involves various biochemical perturbations including changes in lipid peroxidation, reactive oxygen species generation, and leads ultimately to a form of rapid programmed cell death. Thus, attempts to quantify proteomic changes in animal pathogen interactions are technically challenging. In this study, we utilized 2-dimensional electrophoresis to characterize the proteomic host response after exposure to several pathogens. We observed how protein families are changed during the infection with the host to cause disease. [This work was supported by the Korea Science and Engineering Foundation (KOSEF) through the ADvanced Environment Monitoring Research Center at Kwangju Institute of Science and Technology.] REFERENCES [1]. Zhang Y. Proteomics 2004;5:198-211.