

Title Inactivation of *Penicillium expansum* polygalacturonase using antibody technology
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Abstract

The blue mould pathogen, *Penicillium expansum*, produces polygalacturonase (PG) during decay of apples in storage. PG, believed to be a major virulence factor, is produced in a medium-dependent fashion. Four or more isozymes are produced in culture depending on the medium but only one major and one minor isozyme are produced in apple tissue. The *in vivo*-produced isozymes were purified using ammonium sulfate precipitation, gel filtration and ion exchange techniques. Fractions from the two peaks of activity separated by gel filtration were used in generating anti-PG polyclonal antibodies in mice. Antibodies raised against the major PG peak were found to inhibit enzyme activity by up to 60% in *in vitro* assays. Current work, which includes enzyme inactivation on fruit (and its effect on virulence) and the generation and use of recombinant antibodies to determine the role of individual isozymes in disease development, will be discussed.