

Insights: Publications

Harpin, elicitor of the hypersensitive response produced by the plant pathogen *Erwinia amylovora*

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A proteinaceous elicitor of the plant defense reaction known as the hypersensitive response was isolated from *Erwinia amylovora*, the bacterium that causes fire blight of pear, apple, and other rosaceous plants. The elicitor, named harpin, is an acidic, heat-stable, cell-envelope-associated protein with an apparent molecular weight of 44 kilodaltons. Harpin caused tobacco leaf lamina to collapse and caused an increase in the pH of bathing solutions of suspension-cultured tobacco cells. The gene encoding harpin (hrpN) was located in the 40-kilobase hrp gene cluster of *E. amylovora*, sequenced, and mutated with Tn5tac1. The hrpN mutants were not pathogenic to pear, did not elicit the hypersensitive response, and did not produce harpin.