Conservation of Salmonella Infection Mechanisms in Plants and Animals

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Conservation of Salmonella Infection Mechanisms in Plants and Animals

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Salmonella virulence in animals depends on effectors injected by Type III Secretion Systems (T3SSs). In this report we demonstrate that Salmonella mutants that are unable to deliver effectors are also compromised in infection of Arabidopsis thaliana plants. Transcriptome analysis revealed that in contrast to wild type bacteria, T3SS mutants of Salmonella are compromised in suppressing highly conserved Arabidopsis genes that play a prominent role during Salmonella infection of animals. We also found that Salmonella originating from infected plants are equally virulent for human cells and mice. These results indicate a high degree of conservation in the defense and infection mechanism of animal and plant hosts during Salmonella infection.

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