MICROBIOLOGIE, INFECTIOLOGIE ET IMMUNOLOGIE

CONFÉRENCE

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On the front lines:
How bacterial effectors at the host-pathogen interface govern host specificity

Bacterial pathogens pose a serious threat to global food security and human health. One critical virulence apparatus that pathogens deploy is the type III secretion system. The effectors that are delivered by this system mediate the outcomes of host-pathogen interactions because they can either promote pathogenesis on susceptible hosts or activate an effector-triggered immune response on resistant hosts. Using the pan-genome from nearly 500 strains of the agricultural pathogen *Pseudomonas syringae*, we conducted evolutionary genomic analyses to identify more than 14,000 effectors from 70 gene families. We then used a diverse representative collection of effectors to probe the effector-triggered immunity landscape between *P. syringae* and the model plant *Arabidopsis*. We find that a shocking number of effectors elicit an immune response in *Arabidopsis* that reverses the outcome of the interaction from disease to resistance. These results illustrate that despite their widespread importance for pathogenesis, effectors ultimately limit the host range of pathogens and present numerous targets for the engineering of broadly resistant crops.

Jeudi 13 février à 11h30
Pavillon Claire-McNicoll, salle Z-205

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