XIII REUNIÓN DE BIOLOGÍA MOLECULAR DE PLANTAS

FORMULARIO PARA EL ENVÍO DE COMUNICACIONES

DATOS DE CONTACTO
NOMBRE Y APELLIDOS: Jose Sebastián Rufián Plaza
CENTRO: Instituto de Hortofruticultura Subtropical y Mediterránea "La Mayora"
e-mail: rufian@uma.es **TELÉFONO:** 952131676
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A bacterial acetyltransferase targets the protein kinase ZIP1, a positive regulator of plant immunity.

Jose S. Rufián, Javier Rueda-Blanco, Diego Lopez-Marquez, Carmen R. Beuzón, Javier Ruiz-Albert

Instituto de Hortofruticultura Subtropical y Mediterránea, Universidad de Málaga-Consejo Superior de Investigaciones Científicas (IHSM-UMA-CSIC). Dpto. Biología Celular, Genética y Fisiología, Campus de Teatinos, Málaga, E-29071, Spain

Pseudomonas syringae is a model bacterial pathogen that penetrates the leaf to reach the plant apoplast, where it replicates causing disease. In order to do that, the pathogen must interfere and suppress a two-tiered plant defense response: PTI (PAMP-Triggered Immunity, or basal resistance) and ETI (Effector-Triggered Immunity). *P. syringae* uses a type III secretion system to directly deliver effector proteins inside the plant cell cytosol, many of which are known to suppress PTI, some of which are known to trigger ETI, and a handful of which are known to suppress ETI. Bacterial infection can also trigger a systemic plant defense response that protects the plant against additional pathogen attacks known as SAR (Systemic Acquired Resistance). We are particularly interested in the molecular and cellular mechanisms involved in effector-mediated defense evasion by *P. syringae*, in particular those involved in the suppression of ETI and SAR, and/or mediation of hormone signaling.
Here we present data describing effector-mediated interference with plant immunity, by means of acetylation of a key positive regulator of local and systemic responses. Our work identifies a novel plant target for effector function, and characterizes its function. This work illustrates how analyzing the means by which a given effector interferes with its target can provide novel information regarding eukaryotic molecular mechanisms.