

**Mitogenic Activated Protein kinase Kpp6 Signaling
in the Phytopathogenic Fungus *Ustilago maydis*:
Identification of Downstreams Elements**

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Pathogenicity of *U. maydis* is dependent on its ability to mate. Mating requires active cAMP-PKA and MAP kinase cascades and except for the signaling inputs the downstream components are also required during pathogenesis. In addition a MAP kinase, called Kpp6 was described, that works in pathogenicity but not in mating. Kpp6 displays high similarity to Kpp2, the MAP kinase that works in mating. *kpp6* mutants were morphologically indistinguishable from wild type but were unable to induce anthocyanin production and were unable to penetrate into the plant, despite the fact that they did produce appressoria. In this work we are studying the downstream elements of Kpp6 and determine their function during the penetration process. To obtain this information we used microarray assays with RNA from *Ustilago* growing on plant surface. We identified 29 genes which are reduced in expression in Kpp6 mutant with respect the wild type strain. We generated knockout strains for some of these genes in compatible strains of *U. maydis* and analyzed the phenotypes in pathogenicity. Our preliminary results suggest that Kpp6 regulates the penetration of *Ustilago maydis* at the stage where lytic enzymes expression is no longer required.