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## Regulation of effector gene expression as concerted waves in *Leptosphaeria maculans*: a two-players game involving a chromatin remodeler and a specific transcription factor

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Leptosphaeria maculans is a phytopathogenic fungus responsible for oilseed rape stem canker that displays a particularly complex lifecycle. Different sets of effector-genes are expressed at each stage of oilseed rape infection. Repeat-rich regions of L. maculans genome are enriched in effector-genes specifically expressed during biotrophic stages of infection. These regions show a repressed chromatin state during mycelial growth in vitro. We showed the importance of chromatin remodeling in the control of effector-genes expression. As such, the repressive histone modification H3K9me3 deposited by the methyltransferase KMT1, is involved in the regulation of these genes not expressed in vitro but highly expressed during infection. However, inactivation of KMT1 did not de-repress the expression of effector-genes in vitro at the same level as observed during infection, suggesting additional actors involved, such as transcription factor(s) (TF). We investigated the involvement of Pf2, a fungal specific Zn2Cys6 TF, in the control of effector-gene expression. Deletion of LmPf2 lead to a non-pathogenic mutant. Its over-expression was not sufficient to express effector-genes in vitro. In contrast, its over-expression in a Kmt1 mutant background induced the expression of effector-genes in vitro to the same level as during plant infection. These results demonstrated for the first time a dual control of effector-gene expression involving a chromatin remodeler and an infection specific TF.