#10: Manipulation of chromatin configuration for suppression of host immunity by zinc finger effectors (MoZFEs) of rice blast pathogen

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Rice blast disease, caused by the fungal pathogen *Magnaporthe oryzae*, is one of the most devastating plant diseases in the world. The fungal pathogen is known to produce various protein effectors to target host proteins and facilitate pathogenesis and disease development. We have recently identified a family of *M. oryzae* zinc finger effectors (MoZFEs) and demonstrated their entry into rice cells during the fungal infection. Interestingly, transgenic rice lines expressing MoZFEs exhibited suppression of defense gene expression and increased susceptibility to rice blast disease. To elucidate the MoZFE-mediated virulence mechanism, nine putative host targets of MoZFEs were identified from rice by the yeast two-hybrid screening. One of them directly interacts with MoZFEs in plant cell nucleus and is a conserved histone chaperone important for chromatin remodeling. Based on the preliminary data, we hypothesize that MoZFEs target a histone chaperone and likely modify chromatin configuration to suppress defense gene expression and host immunity. Further testings of this hypothesis will help elucidate the molecular mechanism of the rice-*M. oryzae* interaction and facilitate the development of new strategies to improve rice disease resistance and food security.