

Category	: International Rice Research Conference
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Genome biology Structure Function and Comparison Keyword 1	: Genome evolution
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Title of Entry	: The function analysis of MoSnc1 and its relationship with MoVps35 in Magnaporthe oryzae
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Abstract : Rice blast is one of the most important diseases on rice caused by *Magnaporthe oryzae*, which seriously affects the world's rice production. MoVps35, a core element of retromer complex in rice blast fungus, could mediate the transport of autophagy key gene, MoAtg8, through regulating the autophagy process in appressorium-mediated initiation of blast disease on rice. In order to elucidate the reverse transporter of the retromer complex, we have identified a series of related proteins, such as SNARE family members MoSnc1 and MoNyy1. In order to clarify the biological function of MoSNC1 gene in rice blast fungus, we knocked out the gene, and then analyzed the related phenotypes of the knockout mutant. It was found that there was no significant difference between wild type and the mutations of Δ Mosnc1 in sporulation, appressorium formation and pathogenicity, but the growth rate was weaker than wild type. It was found that GFP-MoSnc1 in Δ Mosnc1 could complement the growth defects of Δ Mosnc1 mutant, and MoSnc1 is localized to the endosome of conidium and hyphae cell with dotted structure. In Δ Movps35, however, a large number of GFP-MoSnc1 is positioned in the vacuoles of the rice blast fungus. GFP-MoNyy1 was also misplaced in vacuoles after the deletion of MoVPS35 gene. In summary, our results show that the SNARE protein MoSnc1 is involved in the growth and development of *M. oryzae*, and MoSnc1 and MoNyy1 are located in the endosome in a manner that relies on the retromer complex.

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