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## A necrotropic fungal pathogen serves as beneficial endophyte on plants

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*Sclerotinia sclerotiorum*, a widespread ascomycetous fungus, is a notorious necrotrophic fungal plant pathogen that destroys many important economic crops and vegetable crops leads to huge economic losses, it causes stem rot of rapeseed, a major edible oil crops in China. *S. sclerotiorum* has developed sophisticated strategies to attack plants: it produces oxalic acid and plant cell-wall degrading enzymes to kill host cells and tissues, and it secretes effector-like small proteins to suppress host resistance systems and weaken host metabolism. *S. sclerotiorum* has a wide host range, and is known to attack over 400 species and subspecies of plants distributed in 75 families. Mycoviruses are widespread in nature, and hypovirulence-associated mycoviruses are believed to play a role in counterbalancing plant diseases in nature, and were looked as ideal potential resources for biological control of plant fungal diseases. Previously, various mycoviruses have been identified from *S. sclerotiorum*, including a DNA mycovirus, Sclerotinia sclerotiorum hypovirulence-associated DNA virus 1 (SsHADV-1). The virus particles of SsHADV-1 could infect hypha of *S. sclerotiorum* directly, this virus also has been found to drive mycophagous insect as transmission vector. Recently, we found that SsHADV-1-infected strain of *S. sclerotiorum* could not only improve rapeseed yield in field when applied on aerial parts of rapeseed, but also could grow on plants. We further found that SsHADV-1 down-regulates genes involving virulence of *S. sclerotiorum*, and SsHADV-1-infected strain could activate genes in the resistance pathways of rapeseed, hence treated plants showed strong resistance against *S. sclerotiorum* and other fungal pathogen.