

Identification of interacting plant host factors from the Soil-borne wheat mosaic virus movement protein

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The soil-borne wheat mosaic virus (SBWMV) belongs to the genus Furovirus and infects cereal species. SBWMV is transmitted by the plasmodiophorid vector *Polymyxa graminis*, an obligate root parasite. In winter barley, no effective resistances against SBWMV or the vector are known. Therefore, to develop new resistance strategies against SBWMV, we investigate the molecular interaction between the virus and the host plant. Viral movement proteins (MP) are necessary for virus movement between cells and systemically. As a key factor in viral infection, we focus our investigation on the SBWMV MP. We use fluorescent protein-tagged MP to illuminate its localization to cellular compartments in the model host plant *Nicotiana benthamiana*. Using different established cellular markers, we found that SBWMV MP localizes to plasmodesmata (PD) in the plant cell, further confirming its function as MP and indicating a function of the protein at PD. By using co-immunoprecipitation experiments, we isolate MP-interacting plant proteins. Currently, we functionally characterize the MP-interacting plant proteins with respect to their subcellular localization and RNA-binding properties. The results will help us to understand the interaction between the virus and the host plant on a molecular level and lead to the identification of targets for new resistance strategies.