

Legends of Supplemental Figures.

Supplemental Figure 1. Monitoring systemic HR development in a Cf-4/Avr4 seedling after a temperature shift. The video shows the development of systemic HR over a five-day period in a Cf-4/Avr4 seedling (left). A control MM-Cf-4 seedling is shown on the right. Plants were incubated at 33°C and subsequently transferred to 20°C at t=0 days to initiate the Cf-4/Avr4-induced HR. The unaffected MM-Cf-4 seedling is representative for both *Cf-4*- and *Avr4*-containing seedlings.

Supplemental Figure 2. Phosphorylation intensities of the rLeMPK1-phosphorylated and non-phosphorylated peptides. Average phosphorylation intensities (from the triplicates on one slide) of each of the 976 peptides were sorted from low to high and a corresponding ranking number was assigned. Peptides with an average phosphorylation intensity equal to, or higher than, 1.5 times the average overall phosphorylation intensity are represented by the black dots (referred to as phosphorylated peptides). Peptides with an average phosphorylation intensity of zero are represented by the dark grey dots (referred to as non-phosphorylated peptides). These two subsets of peptides were selected for further analysis. Similar graphs were obtained for rLeMPK2, -3 and rAtMPK6 and subsets of peptides were selected for further analysis in a similar way.

Supplemental Figure 3. Alignment of the MAPK protein sequences. Protein sequences encoded by the ORF of 16 *LeMPK* homologues identified in databases were aligned using ClustalX with the sequences encoded by the ORFs of AtMPK1 to -20 from Arabidopsis, NtSIPK, NtWIPK, NtNTF4 and NtNTF6 from *N. tabacum*, and the *H. sapiens* HsERK1. See Materials and Methods for details.