

Involvement of the β -cinnamomin elicitin in infection and colonisation of cork oak roots by *Phytophthora cinnamomi*

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Abstract The virulence of two wild type (PA45 and PA37) and two genetically modified (13C: hygromycin resistant; FATSS: hygromycin resistant and β -cin knock-down) *Phytophthora cinnamomi* strains towards cork oak (*Quercus suber*) was assessed via a quantitative evaluation of disease symptoms arising from a soil infestation assay, and by a histological analysis of root colonization. Comparison of virulence, as expressed by symptom severity, resulted in the following ranking: highly virulent (wild type strains),

medium virulence (strain 13C) and weakly virulent (FATSS). Both transgenic strains were compromised in their virulence, as expressed by symptom severity, but strain 13C was much less affected than FATSS. Microscopic observation showed that the FATSS strain was unable to effectively invade the root, while 13C and the two wild type strains were all able to rapidly colonize the whole root, including the vascular tissue. These results strengthen the notion that elicitins are associated, either directly or indirectly, with the infection process of *Phytophthora*.

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