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Title: Allelic variation in two distinct *Pseudomonas syringae* flagellin epitopes modulates the strength of plant immune responses but not bacterial motility**Author(s):** Clarke, CR (Clarke, Christopher R.); Chinchilla, D (Chinchilla, Delphine); Hind, SR (Hind, Sarah R.); Taguchi, F (Taguchi, Fumiko); Miki, R (Miki, Ryuji); Ichinose, Y (Ichinose, Yuki); Martin, GB (Martin, Gregory B.); Leman, S (Leman, Scotland); Felix, G (Felix, Georg); Vinatzer, BA (Vinatzer, Boris A.)**Source:** NEW PHYTOLOGIST **Volume:** 200 **Issue:** 3 **Pages:** 847-860 **DOI:** 10.1111/nph.12408 **Published:** NOV 2013**Times Cited in Web of Science Core Collection:** 37**Total Times Cited:** 37**Usage Count (Last 180 days):** 0**Usage Count (Since 2013):** 43**Cited Reference Count:** 65

Abstract: The bacterial flagellin (FlhC) epitopes flg22 and flgII-28 are microbe-associated molecular patterns (MAMPs). Although flg22 is recognized by many plant species via the pattern recognition receptor FLS2, neither the flgII-28 receptor nor the extent of flgII-28 recognition by different plant families is known. Here, we tested the significance of flgII-28 as a MAMP and the importance of allelic diversity in flg22 and flgII-28 in plant-pathogen interactions using purified peptides and a *Pseudomonas syringae* flhC mutant complemented with different flhC alleles. The plant genotype and allelic diversity in flg22 and flgII-28 were found to significantly affect the plant immune response, but not bacterial motility. The recognition of flgII-28 is restricted to a number of solanaceous species. Although the flgII-28 peptide does not trigger any immune response in *Arabidopsis*, mutations in both flg22 and flgII-28 have FLS2-dependent effects on virulence. However, the expression of a tomato allele of FLS2 does not confer to *Nicotiana benthamiana* the ability to detect flgII-28, and tomato plants silenced for FLS2 are not altered in flgII-28 recognition. Therefore, MAMP diversification is an effective pathogen virulence strategy, and flgII-28 appears to be perceived by an as yet unidentified receptor in the Solanaceae, although it has an FLS2-dependent virulence effect in *Arabidopsis*.

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