Gene analysis of a mastigoneme protein 14B7 in *Phytophthora nicotianae*

Shuhei YAMADA[1], Mikihiko ARIKAWA[2], Leila M. BLACKMAN[3], Adrienne R. HARDHAM[3] and Toshinobu SUZAKI[1] ([1]Dept. Biol., Fac. Sci., Kobe Univ., [2]Dept. Physiol., Kochi Med. Sch., [3]Plant Cell Biol. Group, RSBS, The Australian National Univ.)

The oomycete plant pathogen *Phytophthora nicotianae* parasitizes the roots of a wide range of plant species. *Phytophthora* releases biflagellate zoospores, which swim chemotactically to new hosts. The zoospores have threadlike projections called tubular mastigonemes on their anterior flagella. To analyse the role of mastigonemes in flagellar motility, we purified 14B7 protein, a constituent of the mastigonemes in *P. nicotianae*, by immunoprecipitation with a monoclonal antibody directed towards 14B7. N-terminal and internal amino acid sequences were obtained by protein sequencing of 14B7. Based on multiple alignment with sequences deduced from homologous genes and ESTs found in other *Phytophthora* species, we designed several degenerate primers and obtained sequence data for a 300-bp DNA fragment of the *P. nicotianae* gene encoding 14B7. This PCR fragment was used to isolate a 14B7-containing BAC clone from a *P. nicotianae* genomic library.