

IMMUNOGENIC PROTEINS IN DERMATOPHYTE MYCELIAL EXTRACTS

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ABSTRACT

Background. Dermatophyte cytosolic proteins and cell wall proteins as well as different metabolites secreted by fungi are known to be involved in eliciting humoral and cellular immune response in invaded host.

Methods. SDS-PAGE and Western blot techniques were used to study the immunogenic nature of the cytosolic proteins extracted from two dermatophyte species *Microsporum canis* and *Trichophyton mentagrophytes* and two non dermatophyte fungal species *Malassezia pachydermatis* and *Aspergillus fumigatus*. Crossreactivity was confirmed with ELISA technique.

Results. SDS-PAGE analysis of cytosolic proteins revealed several protein bands, which are common to the dermatophytes examined, together with some distinctive bands, which enabled us to discriminate between the dermatophyte species. However, comparison of the cytosolic protein profile obtained from dermatophytes and nondermatophyte fungi studied demonstrated a much higher extent of species-specific proteins. The crossreactivity nature of the investigated fungal antigens was observed in ELISA, and developed for the detection of specific IgG in cats infected with *Microsporum canis*.

Conclusion. Besides strongly crossreacting antigenic protein bands, Western blot analysis, using the same serum samples as in ELISA, also disclosed species-specific immunogenic proteins, which may be the candidates for further investigation of cellular immune response and development of protective vaccines.

KEY WORDS

Microsporum canis, dermatophytes, cats, SDS-PAGE, immunoblotting, antigens

INTRODUCTION

Microsporum canis is an important fungal pathogen of the skin of man and several animal species. Among domestic animals *Microsporum canis* infection in cats accounts for nearly all of dermatophyte

infections (1). However besides the direct involvement of *Microsporum canis* in feline skin diseases, an infected cat represents a possible carrier of the infection, the cat population in general can therefore be assumed as a reservoir of human infection (1,2).

