Contribution to the study of the pathogenesis of dermatophytosis using a murine model of infection with *Arthroderma benhamiae*

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Dermatophytoses are common zoonotic skin diseases whose immunology remains largely unknown, which could explain the failure of most vaccination assays against them. Despite their confinement in keratinized structures of the skin and its annexes, dermatophytes can induce a specific immune response that can lead to total or partial protection against reinfection. It is commonly accepted that the protective immune response is of Th1 type but the involvement of the Th17 pathway has so far not been evaluated, although its role is increasingly recognized as being instrumental in the evolution of many other fungal and microbial infections. The aim of this study was to evaluate the potential involvement of the Th17 pathway in the immune response against dermatophytes using a new mouse model of infection.

C57BL/6J mice were cutaneously inoculated with spores of *Arthroderma benhamiae*. The clinical, histopathological and mycological follow-ups were performed during primary and secondary infections and showed that the secondary infection was less severe with a smaller fungal burden, a more infiltrative pattern and a higher myeloperoxidase activity.

Then, lymphoproliferative assays with the cells of the draining lymph nodes were performed and the orientation of T lymphocytes was determined by flow cytometry, ELISA quantification of cytokines and qRT –PCR analysis of transcription factors. Results showed that the immune response was predominantly Th17.

Altogether our results show that the Th17 pathway could be predominant for protective immunity against *A.* *benhamiae in mice.*

Theses results will be validated using knockout mice and neutralizing antibodies for certain components of the immune response.