Research program IZS VE 01/15

Standardization of molecular methods for detection and identification of fungal pathogens in cytological and formalin-fixed paraffin embedded tissue samples in diagnostic Veterinary Mycology

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Many fungal species can colonise and affect animals and humans, causing cutaneous, subcutaneous and/or disseminated systemic infections. Animals can be accidental carriers, thus becoming sentinels for the risk of exposure of humans to environmental fungi. The wide variety of different fungal species occurring in animals, the emergence of uncultivable pathogens and the often unavailability of fresh specimens, provide practical limitations for a proper fungal identification and diagnosis, especially in a veterinary setting, and restrict the chance to detect emergent pathogens or trace the origin of outbreaks.

This project is aimed to improve the veterinary diagnostic capability of fungal pathogens, through the selection and standardization of more sensitive, rapid and cost-effective tools.

The specific aims are:

1) to standardize a fast molecular methods for the detection and identification of fungal pathogens in cytological and formalin-fixed paraffin embedded tissue samples

2) to assess the rate of undiagnosed or misdiagnosed fungal pathogens in preserved and stored specimens, both retrospectively and prospectively

3) to establish methods for genotyping of animal pathogenic fungi for *Cryptococcus* spp. and *Pneumocystis* spp.

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