

# USE OF A DUPLEX-PCR ASSAY TO SCREEN FOR FELINE HERPESVIRUS-1 AND *CHLAMYDOPHILA SPP.* IN MUCOSAL SWABS FROM CATS

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## SUMMARY

Fifty-four ocular and forty-six pharyngeal swabs, collected from 54 cats with respiratory syndrome, were analyzed by duplex-PCR to evaluate the presence of Feline Herpesvirus type 1 and *Chlamydomphila* spp. Both pathogens are in the population of cats and as four cats were positive only in ocular swabs and three only in pharyngeal ones, it is deduced that a correct diagnostic approach has to foresee the dispatch to the laboratory of both swabs. Furthermore, all *chlamydomphila* strains analysed by endonuclease restriction were classified as *Chlamydomphila felis*.

**KEY WORDS:** cat, chlamydomphilosis, herpesvirosis, diagnosis, duplex-PCR

Received April 22, 2004

Accepted May 20, 2004

## INTRODUCTION

Respiratory infections are widespread in the cat population and are often associated with pathogens like *Feline Herpesvirus type 1* (FHV-1), *Chlamydomphila* spp. and *Feline Calicivirus* (FCV). Other micro-organisms such as parainfluenzaviruses, *Mycoplasma* spp., *Bordetella bronchiseptica* and *Pasteurella multocida* are likely to cause secondary infections (Gaskell and Dawson 1998).

Epidemiological studies have shown that FHV-1 is the cause of respiratory syndrome in 17.3% of cases (Sykes *et al.*, 2001) and that the most common U.R.T.D. (Upper Respiratory Tract Disease) and conjunctivitis associated infectious agent is *Chlamydomphila felis* with 59.3% prevalence (Cai *et al.*, 2002), as demonstrated in recent investigations carried out in Japan.

The definitive diagnosis of feline herpesvirosis and feline chlamydomphilosis requires the isolation of their aetiological agents, since serology

alone does not discriminate infected animals from vaccinated ones. FHV-1 isolation by cell culture is easily performed even if some false negatives may occur due to (i) inadequate amount of virus present in the ocular and/or pharyngeal swabs, (ii) presence of antibodies in the extracellular liquids able to inhibit viral replication *in vitro*, (iii) concomitant presence in the swabs of FCV that could disguise the cytopathic effect induced by FHV-1.

*Chlamydomphila felis* cannot be readily isolated in embryonate chicken eggs or cell cultures and it is useful to use molecular biological techniques such as polymerase chain reaction (PCR). Furthermore it is possible to use the amplicons to identify the chlamydomfiles after treatment with restriction enzymes. This is particularly useful to appraise, from the epidemiological point of view, the most prevailing strains in the investigated areas.

The aims of this research are (i) to appraise the prevalence of two of the most common respira-