

FELINE CORONAVIRUS

Feline coronaviruses (FCoV) are frequent in feline populations, particularly in community settings. Although the majority of infections are benign, around 5% of infected cats develop feline infectious peritonitis (FIP), an often fatal and highly contagious viral disease. Faced with this clinical challenge, rapid and accurate detection of Feline Coronavirus (FCoV) is essential for veterinary professionals. The Asteria® Feline Coronavirus test from Enalees offers an innovative, high-performance solution for the early diagnosis of feline coronaviruses in order to limit their spread.



FELINE CORONAVIRUSES (FCOV): A SILENT THREAT

FCoVs are large, spherical, single-stranded RNA enveloped viruses belonging to the **Alphacoronavirus** genus, and exist in two forms:

 **FECV**
Feline Enteric Coronavirus
An **enteric form** causing mild gastrointestinal symptoms.

 **FIPV**
Feline Infectious Peritonitis Virus
A **form responsible** for feline infectious peritonitis (FIP), an outcome that is often lethal.

The **intestinal form (FECV)** is the most common, but during viral replication, mutations can occur, transforming FECV into FIPV. This process is more prevalent in environments where cats live in groups, such as catteries. The literature also indicates that predisposing factors such as genetic susceptibility, young age and sources of stress could be the cause.

TRANSMISSION: A CHALLENGE FOR FELINE COMMUNITIES

ORONASAL TRANSMISSION



By excretion in faeces (shared litter and reinfection by contaminated litter).



By adult cats asymptomatic carriers (FIPV strains are rarely excreted in the faeces, unlike FECV strains).



Saliva (mutual licking, shared bowls) or sneezing which are rare.

VIRAL EXCRETION



Begins two days after infection and lasts **for several weeks to several months. It may be intermittent or chronic.**

INACTIVATION OF CORONAVIRUS



The virus is usually inactive **At room temperature** within 24-48 hours.



Elimination with the use of most of **detergents** and **disinfectants**.



Survives for up to **7 weeks in dry environments** (carpets and dried faeces in litter trays), and is transmitted by clothing, toys or brushes.

 **Infection of cats** with enteric virus usually results in hidden infection or light enteric symptoms. FIP, however, is characterised by fibrinous serositis with protein-rich effusions in body cavities ('wet form') and/or granulomatous-necrotising inflammatory lesions in several organs ('dry form'). FIP is the leading viral cause of death in domestic cats.

SYMPTOMS: WET OR DRY FIP?

Feline peritonitis (FIP) comes in two forms:

➤ **Wet form:** Protein-rich pleural or abdominal effusions cause symptoms such as fever, rapid weight loss and a general deterioration in health.

➤ **Dry (non-effusive) form:** More difficult to diagnose, this form is characterised by granulomatous lesions

affecting various organs (liver, kidneys, brain) with neurological or ocular clinical manifestations.



In both cases, the pleomorphic disease is progressive and often fatal within a few weeks, in the absence of rapid diagnosis and appropriate treatment.

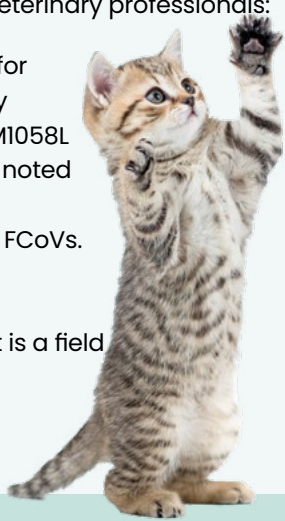
DIAGNOSIS: TACKLING THE CHALLENGE OF DETECTION



Diagnosis of FIP relies on a combination of clinical and biological methods. However, the distinction between benign FCoV (FECV) and pathogenic mutated strains (FIPV) remains complex. There are a number of tools available to veterinary professionals:

RT-PCR targeted on FCoV: Essential for differentiating strains, in particular by analysing mutations in the S gene (M1058L and S1060A mutations). It should be noted that this test is very rarely offered by laboratories, which usually detect all FCoVs.

Cytological analysis: the Rivalta test is a field test for analysing effusion fluids and assessing the probability of FIP.



Proteinogram: Often indicates polyclonal hyperglobulinaemia in the dry form of FIP.

Serological tests: ELISA (Enzyme-Linked Immunosorbent Assay), **RIM** (immunochromatographic) **and IFI** (indirect immunofluorescence). These tests measure the quantity of antibodies in the blood directed against feline coronaviruses. The aim is to determine whether the cat has ever been infected with these viruses.

➤ These methods, although valuable, often need to be used as complementary tools to refine the diagnosis and to correlate with the cat's clinical symptoms.

AN INNOVATIVE, COMPLEMENTARY SOLUTION: THE ASTERIA® FELINE CORONAVIRUS TEST



To meet the growing need of veterinary professionals to diagnose and isolate a cat infected with feline coronavirus, Enalees offers the Asteria® Feline Coronavirus test. This is a rapid and reliable diagnostic test based on LAMP (Loop-mediated isothermal amplification) technology. Our rapid test detects the virus in blood

or effusion fluid when dry or wet feline infectious peritonitis is suspected. The Asteria® Feline Coronavirus test provides a result in 40 minutes on the presence of feline coronaviruses, helping the veterinary professional to diagnose and provide personalised, reasoned care for patients. This tool makes it easier to manage suspected cases in correlation with clinical symptoms, and provides vital support for cat owners and breeders, while improving the outlook for management of this complex viral pathology, which remains difficult and costly to treat.



FOR FURTHER READING:

'GS-441524 is currently the optimal treatment for FIP in France'

