Detection of the Feline leukemia virus
FeLV and FeLV proviral Real-Time quantitative PCR Tests

Feline leukemia virus is a single-stranded positive-sense RNA virus belonging to the Retroviridae family. As part of their life cycle, once the viral RNA enters the cytoplasm, DNA is produced by using its own reverse transcriptase. The new DNA is then incorporated into the host cell genome by an integrase enzyme, at this point the retroviral DNA is referred to as a provirus. Feline leukemia virus infects cats and can be transmitted through the transfer of saliva or nasal secretions. It causes a disease that impairs the cat’s immune system and causes certain types of cancer. This virus infection is responsible for a majority of deaths in household cats, affecting all breeds. Males are more likely to contract the infection than females, and it is usually seen between the ages of one to six years old.

Additionally, as most retroviruses, endogenous Feline leukemia virus sequences are integrated into the genome of all domestic cats. They represent footprints of ancient retroviral infection that are incapable of giving rise to infectious virus particles. This endogenous sequences are closely related to exogenous FeLV (pathogenic virus) and can be an issue when perform a genetic detection.

GPS™ FeLV primers/probe are designed in a specific genomic region to amplify the exogenous and not the endogenous FeLV sequences. Validation of the primers/probe was performed with many domestic cat samples (Felis catus) to ensure the exclusivity of the design.

The FeLV detc-RT-qPCR Test allows the detection of both viral (RNA) and proviral (DNA) forms. The FeLVp detc-qPCR Test allows the exclusive detection of the proviral form (DNA).