REDUCTION OF PROVIRAL LOAD OF FELINE LEUKEMIA VIRUS EMPLOYING IMMUNOMODULATING PROPERTY OF FIVE THAI EDIBLE PLANT EXTRACTS

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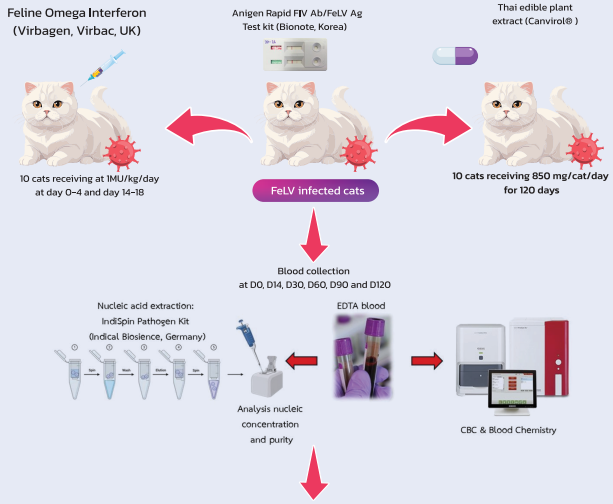
Introduction

Feline leukemia virus (FeLV) associates with lymphoma, anemia and immunodeficiency. Specific immune modulators like interferon can enhance innate immunity, but their high cost hinders lifelong treatment. Canvirol®, formulated from extracts of mangosteen, black sesame, soybean, guava, and gotu kola, have shown potential in modulating immune system by reducing viral load of HIV patients.

MATERIALS AND METHODS

IACUC: Animal use protocol 2231016



Primers	Sequence (5′ – 3′)	Amplicon
FeLV_U3-exoF	AACAGCAGAAGTTTCAAGGCC	131 bp
FeLV_U3-exoR	TTATAGCAGAAAGCGCGCG	
FeLV_U3-probe	dFAM- CCAGCAGTCTCCAGGCTCCCCA -BHQ1	

Proviral load was quantified using dPCR

dPCR parameters

Priming profile (Step 1)

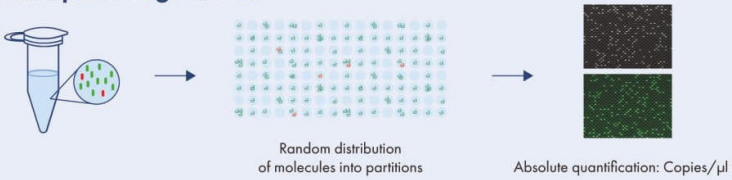
Cycling profile (Step 2)

Number of repetitions	Temperature C	Duration
1 x	95	2 min
45 x	95 60	15s 30 s

Imaging profile (Step 3)

Channel	Exposure duration ms	Gain
Green	500	6

Nanoplate Digital PCR



Random distribution of molecules into partitions

Absolute quantification: Copies/µl

Results

All cats receiving Canvirol® exhibited stable clinical signs without side effects for 120 days. Health monitoring revealed that blood parameters were within normalranges, except for mild ALT elevation in three cats and mild anemia in two cats.

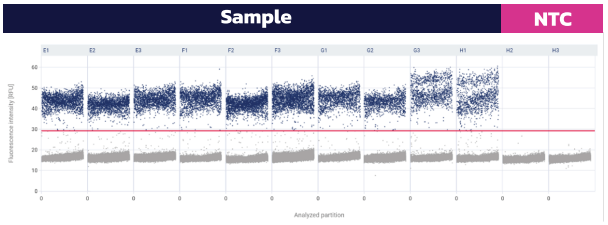


Fig. 1 Criteria for 1-dimension data of fluorescence intensity (RFU) include the presence of two populations. Sample represents for FeLV proviral load, while negative control (NTC) shows no RFU.

FeLV-proviral dPCR results showed a decline in proviral load in 9 cats in Canvirol® group, ranging from 3% to 99%. While, the proviral load in interferon group increased in 7 cats, ranging from 136% to 1,126% compared to their initial levels at D0.

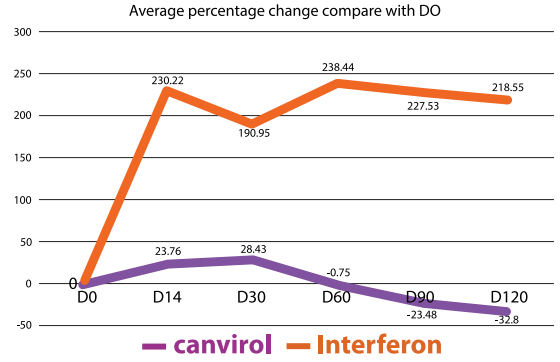


Fig. 2 Proviral load percentage change compared between two treatments at D0 to D120

Conclusion

FeLV proviral loads were notably reduced throughout the 120 days of Canvirol® treatments, suggesting that Canvirol®, providing according to this protocol, is effective in reducing FeLV provirus and safe for cats. Veterinarians now have various treatment options for FeLV infections, and advancements in veterinary medicine are helping to decrease reliance on antiviral drugs and imported medications. We presented evidence demonstrating the benefits of using Canvirol® in animals.

Acknowledgement

We are sincerely grateful to all owners and cats for participating this project.

Conflict of interest statement

Killer T Cell For Pets Company Limited is the only funding sponsor without influence on the study trial.

References

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Canvirol Viral Research