DEVELOPMENT OF A MULTIPLEX PCR AS AN AUXILIARY PROGNOSTIC TOOL OF FELV INFECTED CATS

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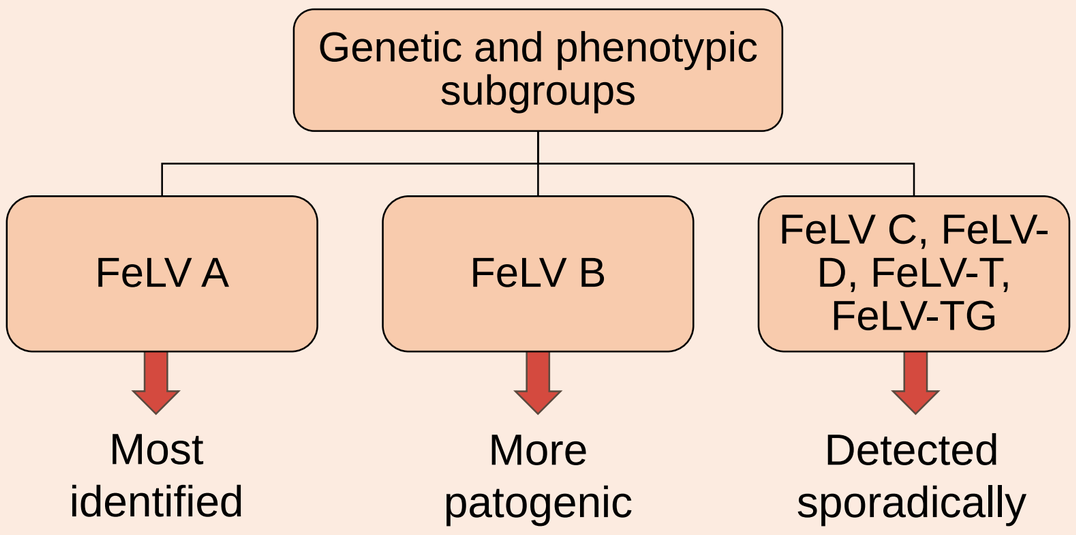
Introduction:

- The Feline Leukemia Virus (FeLV) is a retrovirus that primarily infects domestic cats, causing clinical signs related to immunosuppression and neoplasms.



For the diagnosis (presence or absence of a viral antigen):

ELISA | Rapid Immunochromatography | PCR

Objective:

- The objective was to develop a multiplex PCR that would aid in the prognosis of FeLV-infected cats, differentiating the viral subgroups.

Methods:

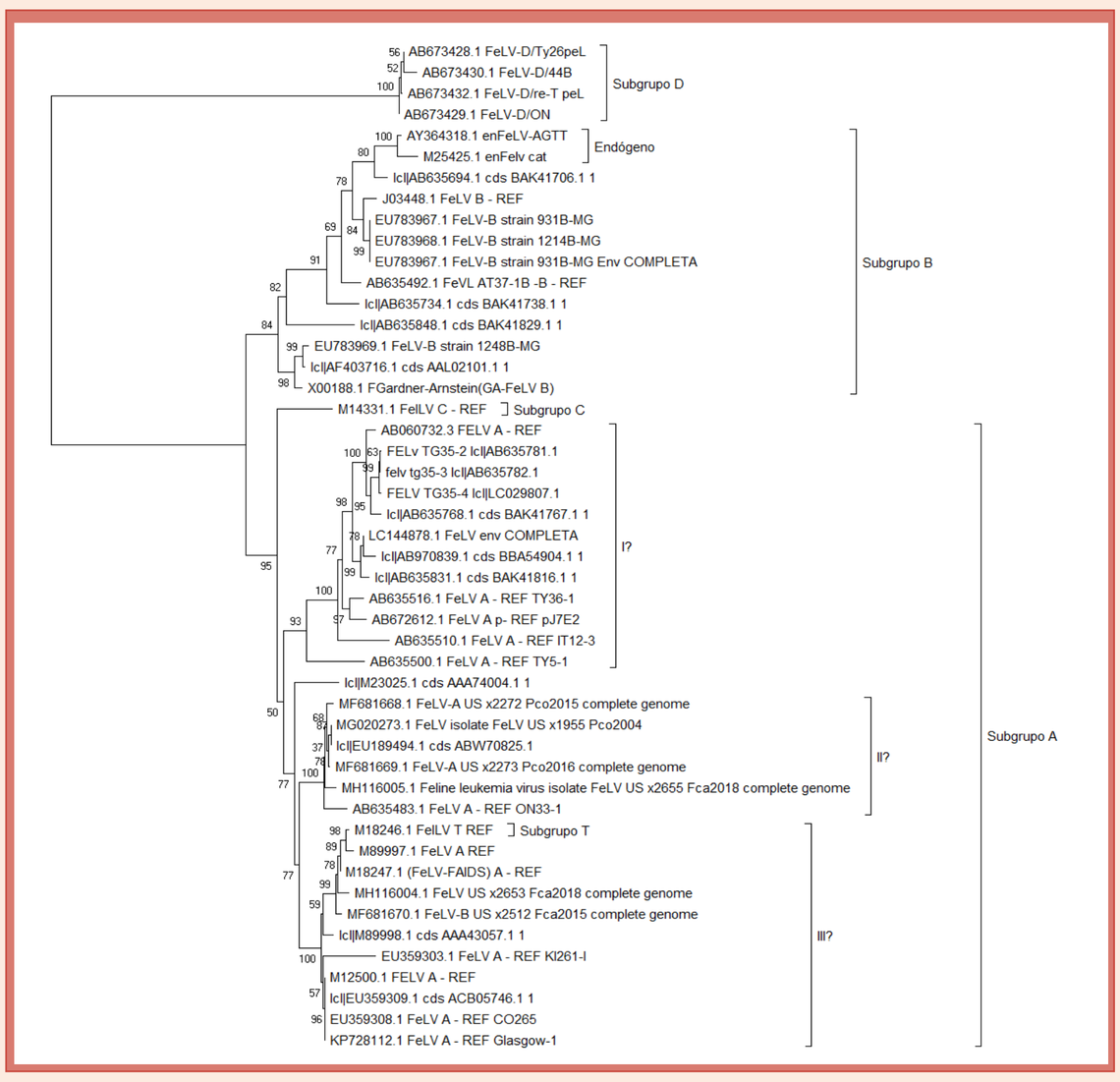


Figure 1 - Phylogenetic tree - Env FELV (940nt)

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1. All DNA sequences from the complete genome were obtained from GenBank;

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2. All viral envelope (env) gene sequences were obtained from GenBank;

3. The sequences were submitted to DNA alignments and phylogenetic analyzes to classify the sequences in the viral subgroups;

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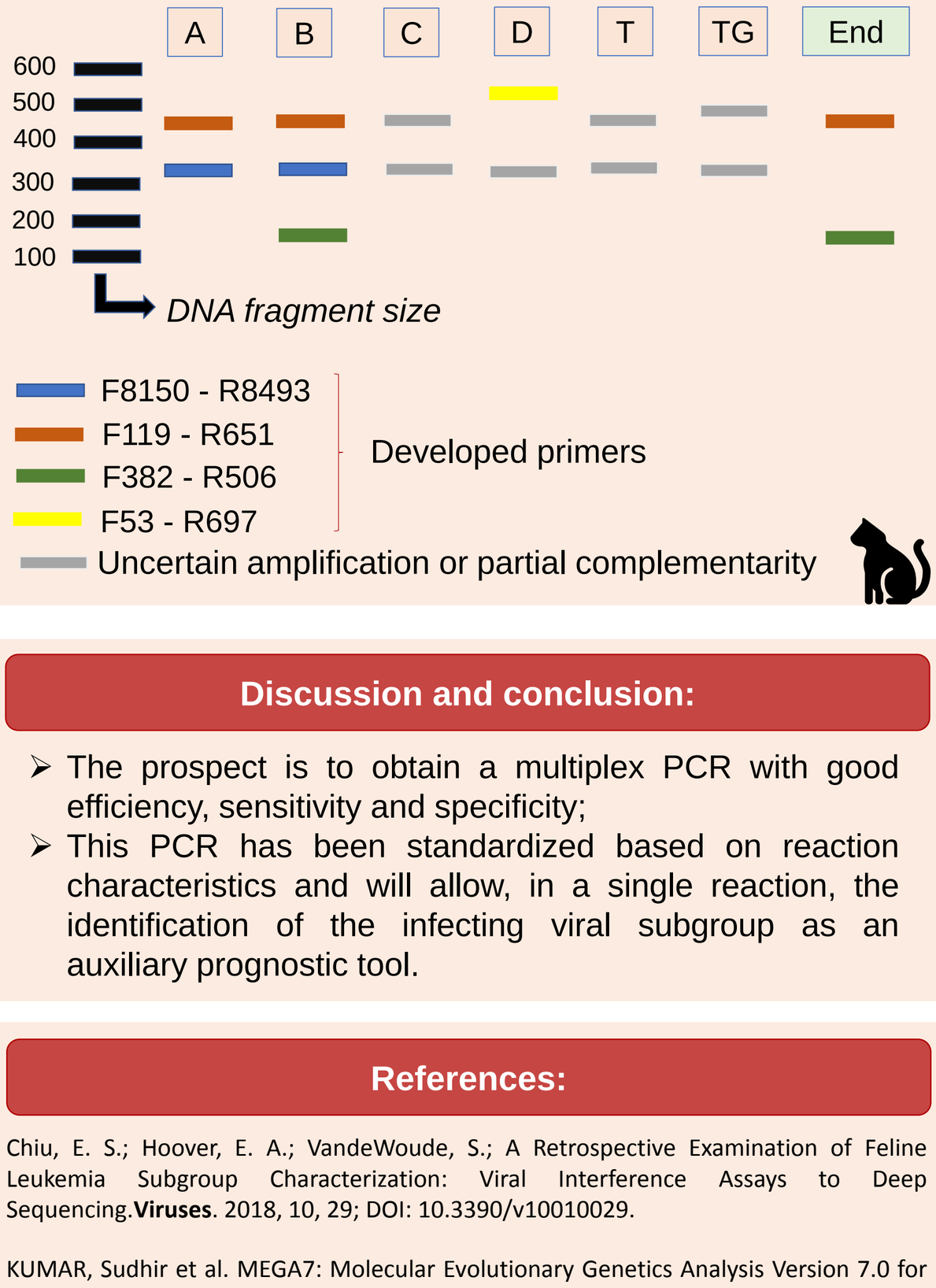
4. A pair of pan-FeLV primers was designed to detect any FeLV

5. Specific pairs of primers were designed to identify each subgroup;

- The Phylogenetic tree was developed on MEGA.

Results:

PCR multiplex (diferencial) - FELV



Discussion and conclusion:

- The prospect is to obtain a multiplex PCR with good efficiency, sensitivity and specificity;
- This PCR has been standardized based on reaction characteristics and will allow, in a single reaction, the identification of the infecting viral subgroup as an auxiliary prognostic tool.

References:

Chiu, E. S.; Hoover, E. A.; VandeWoude, S.; A Retrospective Examination of Feline Leukemia Subgroup Characterization: Viral Interference Assays to Deep Sequencing.**Viruses**. 2018, 10, 29; DOI: 10.3390/v10010029.

KUMAR, Sudhir et al. MEGA7: Molecular Evolutionary Genetics Analysis Version 7.0 for Bigger Datasets. **Molecular Biology And Evolution**, Oxford, v. 33, n. 7, p.1870-1874, 2016.

Miyake, a.; Kawasaki, J.; Ngo, H. Makundi, I.; Yutaro, M.; Khan, A. H.; Smith, D. J.; Nishigaki, K. Reduced Folate Carrier: na Entry Receptor for a Novel Feline Leukemia Virus Variant. **Journal of Virology**. DOI: 10.1128/JVI.00269-19. 2019.