

## **FA-SAT: A molecular physical inspection tool for chromosome rearrangements in cat tumours**

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FA-SAT is a major satellite DNA family of the cat (*Felis catus*) genome. Its physical location in cat chromosomes produces a distinct and characteristic *in situ* hybridization pattern that enables the identification of most chromosomes. Naturally occurring cat mammary tumours (CMT) offer a unique opportunity as models for human cancer biology and therapeutics. However, data regarding CMT cytogenetic characterization is very scarce, especially at the molecular level. Moreover, the cytogenetic analysis of solid tumours has been a challenge because of the difficulties in chromosome preparation and complexity of the karyotypes displayed.

In the present work we demonstrate how the FA-SAT *in situ* hybridization patterns can be used as molecular physical inspection tools to detect the chromosomes rearranged in CMT. Two cases are presented as example, and in both the FA-SAT patterns disclosed the best candidate chromosomes involved in the numerical or structural chromosome alterations.

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