

Dealing with an increasing number of canine DNA tests Dr Marie Abitbol

In the last two decades, canine genetics were propelled forward thanks to the newly-developed genomic tools. To date, more than 180 genes and mutations causing phenotypic variability or predisposition to inherited disorders have been discovered in canines. In most cases, identification of a new mutation prompted the commercialization of a new DNA-based screening test.

Meanwhile, we discovered that some putative simple monogenic disorders encompassed more complex situations. For instance, the same canine disease could be caused by several mutations located in different genes; sometimes, the age of onset and the clinical course of a same disease may vary among affected dogs; and some developed DNA-based tests failed to become fully-reliable diagnostic tests because they just helped estimate the risk for a dog to be affected by an inherited disorder.

In this moving "DNA world", it is not always easy for owners, breeders, veterinarians and Kennel clubs to discriminate between the panel of proposed tests, which are the most relevant. In addition, it may be difficult to choose a testing platform among the growing list of DNA-based tests' providers that yearly emerge in the field of animal genetics.

After a short presentation focused on several representative examples, we will have the opportunity to discuss how robust criteria can be established to better evaluate the scientific relevance and accuracy of a DNA-based test; few points regarding the organization of DNA-based tests' providers will also be discussed, which should help people choose among the most responsible laboratories.