

Colortest

Among the numerous races of dogs, there is a wide panel of coats' colors. This variety of colors is particularly looked for at the Labradors Retrievers which can be black, yellow or more rarely chocolate. These three colors of coat are the result of the interaction between two carrier genes of the "color" information.

The chromosome 11 carries Locus B (gene TYRP1) which checks the expression of the color : black or chocolate-brown. Locus Extension (gene MC1R), situated on the chromosome 5, indicates as for him the potentiality to express the color determined by Locus Agouti.

The color of the coat to mammals is determined by the quality and the quantity of melanins, pigments of hairs and skin which are produced by melanocytes.

There are two types of melanins :

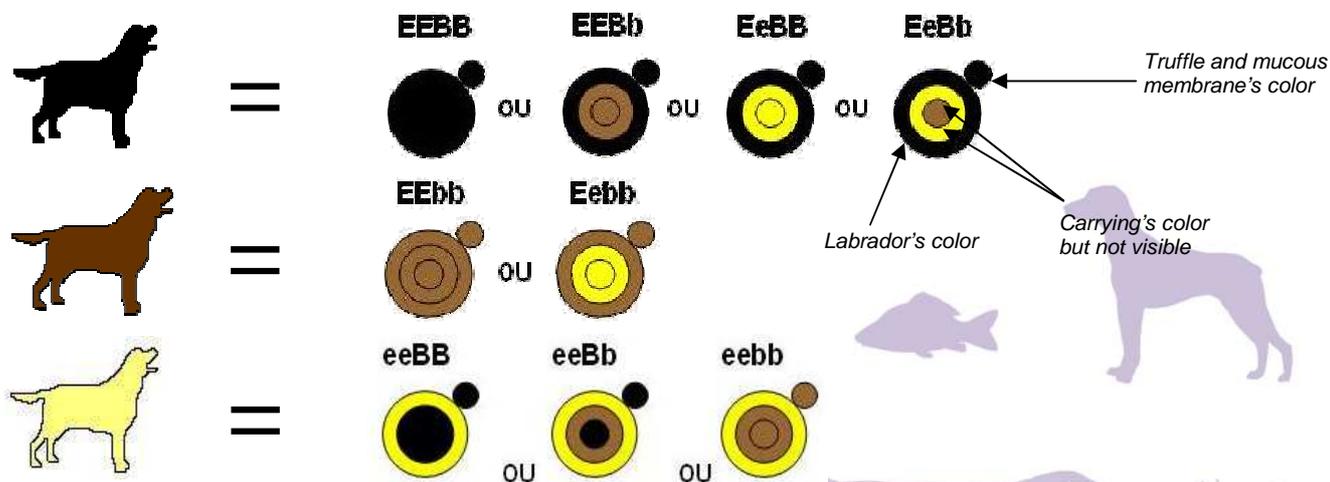
- The black / brown pigment or eumelanines
- The red pigment or phaeomelanine



The regulation enters the synthesis of eumelanines and phaeomelanine is determined by the allelic variations of two genes: Locus B and Locus Extension. Locus B (allèle wild B) intervenes in the synthesis of black pigment. He can undergo a recessive transfer. Locus B moved (allèle b) does not insure then any more its function : only the production of the brown pigment becomes possible.

Locus Extension (allèle wild E) is needed to the synthesis of eumelanines. To Labradors, a recessive transfer (allèle e) returns Locus incapable to regulate the mechanism of this synthesis. The melanocyte produces then exclusively the red pigment of the phaeomelanine and the color defined by Locus B (B or b) cannot express itself, the dog is of yellow or sand-colored color.

To the Labrador Retriever, the combination of this 2 Loci declines in 3 colors (phenotypes) following 9 allelic variations (genotypes):



Of these new genotypes, the yellow Labrador "yellow liver" [e/e, b/b] is not accepted in confirmation in France because of the chocolate-brown pigmentation of its truffle and its mucous membranes.

As requested by breeders of Labradors Retrievers, GENINDEXE finalized a genetic analysis revealing the carried colors. The ColorTest was scientifically validated and tested in blind before being launched on the market in 2004. For the breeders, it is henceforth possible to integrate this "color" variable into the choice of the breeders at the end, for example, to avoid the birth of Yellow Liver, to have an impact with "chocolate-brown" dominant, etc. ... To make this test, a simple oral or blood taking is enough for us to make the DNA test.



For more information or sample collection kit, do not hesitate to contact us !