

## **DNA Certificate**

## **Accordant International Pigeon Panel by ISAG**

Certificate issued on August 13, 2015 in Moen, Belgium Certificate updated November 24, 2017

The authenticity and updates of this certificate can be verified on "http://www.pigen.be" This certificate<sup>1</sup> ensures parentage authenticity of pigeon BE08-4298110.



Scan this QR code to verify this certificate on "http://www.pigen.be"

发送此QR码以在网址 www.pigen.be 上验证此证书

grandfather

BE00-3127222

Vader Marseille

Certificate: NOV20170094

Proven by DNA

grandmother

BE08-4298110 Montali

Quality Genes<sup>3</sup>: I DHA: AR

Certificate: AUG20150169

Proven by DNA

mother

father

BE06-4288297 Yelena

Quality Genes3:

DRD4: CCCT | LDHA: AA Certificate: AUG20150168

Proven by DNA

grandfather

grandmother

BE04-4391386

Marathon Lady

Certificate: NOV20170682 Proven by DNA

Ruben Lanckriet

Pascal Lanneau



<sup>1</sup> This certificate is issued based on tests performed on DNA samples to PiGen by accredited veterinarians and/or FCI officials appointed by the persons that confirmed, on the date of DNA sampling, to be the respective owners of the pigeons with the ringnumbers mentioned in this certificate.

 $^2$  DNA testing is done according to internationally agreed Pigeon Panel and recommendations by ISAG (International Society of Animal Genetics). The testing labs are certified according NEN-EN-ISO 9001. The probability of exclusion (PE) of this parentage verification is higher than 99,9%.

<sup>3</sup> The following DNA markers are scientifically associated with racing performance; LDHA is a gene for a lactate dehydrogenase enzyme. DRD4 or dopamine receptor 4 gene is an indicator for character traits. CRY1 or cryptochrome 1 gene codes for a protein in the retina of the eye. Calcium/calmodulin-dependent serine protein kinase (CASK) is a gene important for synapse formation in the

brain and the nerve-muscle connection.

LDL Receptor related Protein 8 (LRP8) is a gene important for the growth of the hippocampus inside the brain. The hippocampus is important for recognition of geographic structures and navigational abilities.

Glutathion-diSulfide-Reductase (GSR) is a protein that is associated with magnetoreception abilities.



