



## DNA Certificate

### Accordant International Pigeon Panel by ISAG

Certificate issued on July 17, 2013 in Moen, Belgium

Certificate updated July 17, 2013



**JUL20130052**

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

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The authenticity and updates of this certificate can be verified on "<http://www.pigen.be>"  
This certificate<sup>1</sup> ensures there exists a DNA Profile of pigeon BE09-5052387.

BE09-5052387

New Freddy

Certificate: JUL20130052

**Proven by DNA**

father

grandfather

grandmother

grandfather

mother

grandmother

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.

<sup>2</sup> 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 to 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.

