



SEP20130036

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## DNA Certificate

### Accordant International Pigeon Panel by ISAG

Certificate issued on September 01, 2013 in Moen, Belgium

Certificate updated September 01, 2013

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 BE03-6460053.

BE03-6460053

Schoon Witpen Willy

Certificate: SEP20130036

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.

