



**JUL20130340**

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## DNA Certificaat

### Accordant International Pigeon Panel by ISAG

Certificaat op juli 31, 2013 uitgevaardigd in Moen, België  
Certificate updated april 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 BE12-4163422.

BE12-4163422 Blue Ace Freddy'ke
Quality Genes <sup>3</sup> : LDHA: AB Certificaat: JUL20130340 <b>Proven by DNA</b>

BE09-5052387 New Freddy	vader
Certificaat: JUL20130052 <b>Proven by DNA</b>	

	moeder

	grootvader

	grootmoeder

	grootvader

	grootmoeder

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 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.

