Unistel Medical Laboratories

Genetic Report

Pigeon Racing Performance

Columba livia domestica

Racing Traits

Name: OP 19054 ZA 2023

Date of birth: 2023

Gender: Male

Laboratory number: U621932

Client name: Viljoen, A

TEST DESCRIPTION:

LDHA

Lactate dehydrogenase A (LDHA) is an enzyme involved in the synthesis and recycling of lactate to energy in skeletal muscles during high-intensity exercise. In pigeons, two variants of the LDHA gene have been identified: B, the wild type allele, and A, which has been associated with improved racing performance in distances where both speed and endurance are required (300 – 700 km). Birds with the A variant are thought to be able to metabolise lactate more efficiently, allowing them to fly at maximum speed for longer without experiencing the same level of muscle fatigue as birds with the B variant.

DRD4

Personality traits have been shown to have a major influence on sporting achievements, some of which have been associated with the dopamine receptor D4 (*DRD4*) gene. In racing pigeons, two variants (954C > T and 456C > T) were found to be significantly associated with racing performance at short to medium distances (< 400 km). When looked at together, the CCCC genotype was associated with the lowest averages, and CTCT with significantly higher averages. Outwardly, CTCT birds appear to show more insistence on coming to the starting line, which results in faster race times.

TEST RESULT:	LDHA	AB	DRD4	954	456
				CC	CT

BREEDING IMPLICATIONS OF TEST RESULT:

LDHA - Associated with better racing performance for longer distance races (300 to 700km)

DRD4 - Associated with a higher average in short distance racing performance

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De Tijger Office Park, Block 1, Hannes Louw Drive, Parow North, Cape Town, 7500
Suite 13, Private Bag X22, Tyger Valley, 7536, RSA.
Tel: +27 (0)21 – 007 5616
www.unistelmedical.co.za