

PROJECT REVIEW

“Validation of a novel test for Autologous Blood Transfusion - Detection limits and biased for genetic variation”

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Blood transfusion remains one of the most effective means to increase the number of red blood cells (i.e. haemoglobin mass) in an athlete, and thereby enhances athletic performance in endurance events. This process is banned by WADA and its signatories to the ideal of clean sport competition, but a reliable test is yet to be developed.

Our general objective with the project is to develop and deliver a robust test to detect autologous blood transfusion (ABT) practice using freeze-stored red blood cells (RBC).

Goals of the current proposal is to report some parts of the diagnostic performance of the test, namely;

1. Lower detection limit for frozen autologous RBC in human circulation
2. Bias for genetic variation human RBC on test performance in negative (Clean) and positive (Doped) reference samples

A minor objective is to investigate the effect of physical performance after repeated micro-dosing of autologous RBCs.

Subjects will donate and later be re-infused with their own blood. Blood samples are then taken for up to 10 weeks after re-infusion. We use a proteomic screening method (LC-MS/MS) for detection of changes in the blood after the transfusion.