

## **PROJECT REVIEW**

### ***“Markers to reduce the effect of plasma volume in the Athlete Biological Passport during the two-hour after exercise”***

Mr. Marc Vouillamoz, Dr. Norbert Baume, Dr. Tiia Kuuranne, Dr. Peter Van Eenoo, Dr. Raoul Kempkes, Dr. Günter Gmeiner

The International Standard for Testing and Investigations requires that blood samples for the Athlete Biological Passport (ABP) are collected at least two hours after training or competition, in order to harmonize the passport data by reducing the impact of variation in volume of blood plasma that is induced by intensive exercise. Removal of this requirement would facilitate more frequent, convenient, cost-effective sample collection for athletes and testing authorities right after competition. A set of common clinical chemistry markers have recently been demonstrated to correct for fluctuations in plasma volume (PV) in experiments with healthy volunteers, indicating that they have potential to refine the ability of the ABP to detect blood manipulations by improving the sensitivity of the primary ABP markers. This project will evaluate the feasibility and validity of these markers in routine anti-doping settings by analyzing the markers in four WADA-accredited anti-doping laboratories. Successful validation of the PV correction method in this study will support the future implementation of this approach as a pertinent component of the ABP hematological module and enable the collection of ABP blood samples immediately after training or competition.