

# ROLE OF AN ABP EXPERT AND FORENSIC EVIDENCE

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# ABP Experts role

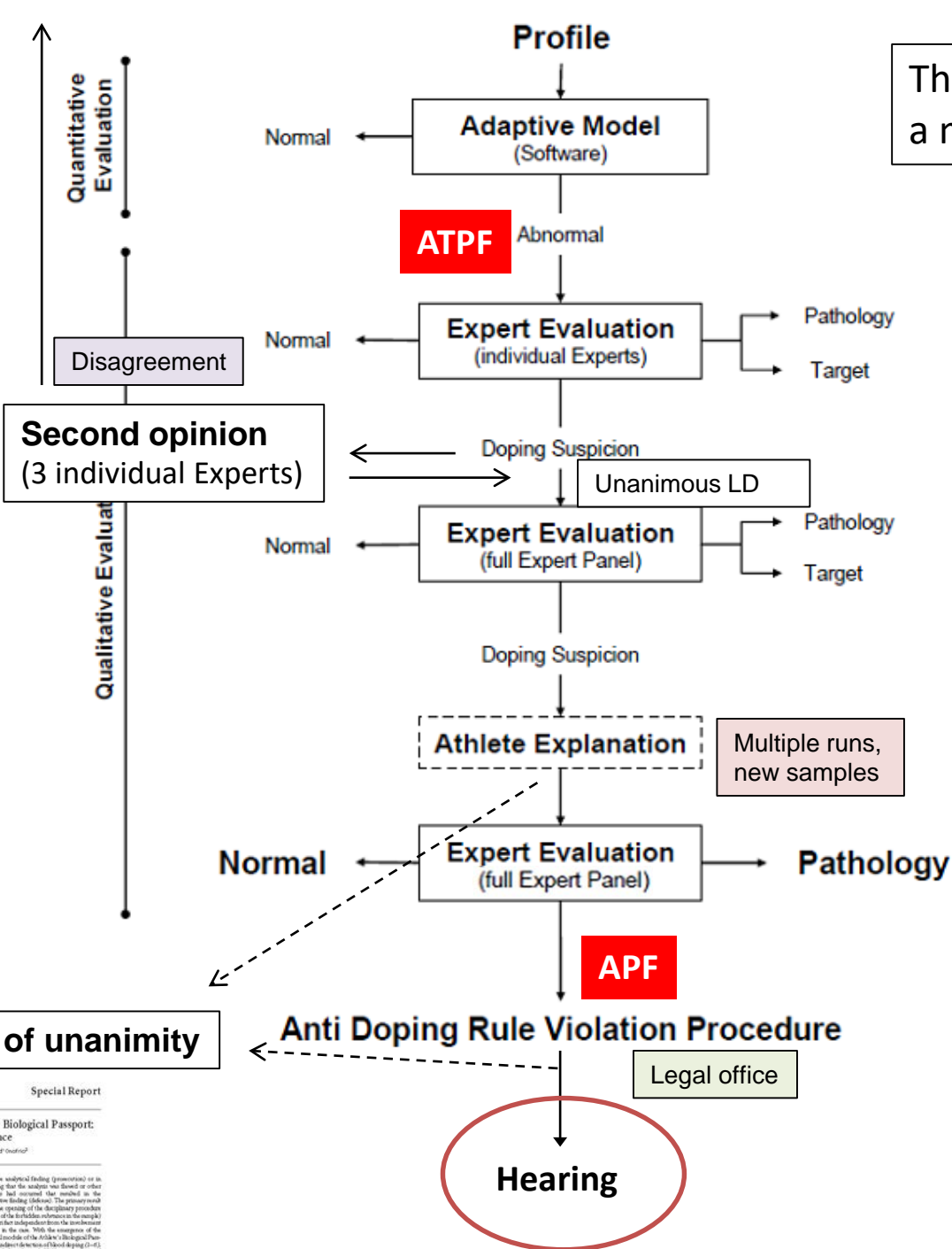
- ⦿ Watchdogs of ABP cases, who prevent:
  - clean athletes from being accused by statistics
  - unloyal athletes from being cleared by statistics
  - wasting resources on weak cases
- ⦿ Decision-makers
  - start APFs (ADVR), suggest targeting, advice on reducing testing
  - warrant absence of procedural irregularities in sample management and verify reliability of all sources of information
  - assess athlete's explanations
  - scientific advisors in legal proceedings
- ⦿ No decision on guilty/not guilty: they provide scientific grounds for decisions taken by ADO-IF disciplinary panels, and CAS

# Qualification of ABP Experts

- ⊙ WADA ABP Guidelines: exercise physiology, hematology, internal and sports medicine, clinical laboratory → doping hematology
- ⊙ ABP scientific background
  - biological variation in reference populations of athletes
  - effects of blood doping and doping protocols used in particular sports
  - effects of confounding factors (altitude, exercise...)
  - prevalence and diagnosis of medical conditions with an effect on biomarkers
  - Bayesian logic
- ⊙ Forensic reasoning and presentation of evidence  
→ **translate data and science into evidence**

The expert evaluation: a multi-step process

Improve targeting, ESA, steroids, new drugs, investigation...



1. Initial Review

2. Joint Panel Report

3. Expert Panel Response

4. Expert Panel Opinion

Loss of unanimity

Special Report  
Scientific Expertise and the Athlete's Biological Passport:  
3 Years of Experience  
Wolfgang Schumacher\* and Giuseppe Di Donofrio†

Expert evaluation of biological data is a cornerstone of the Athlete's Biological Passport approach in the fight against doping. The extensive clinical and biological assessment of biological variables to determine the probability of the data being physiological and, on the basis of the Athlete's in-competition values (performed by an authorized software system using a reference model) and a subjective evaluation of the results in view of possible causes (performed by experts)...

Anti Doping Rule Violation Procedure  
Legal office

Hearing

# Independence and impartiality

- ⦿ A recurring issue in ABP blood doping proceedings
- ⦿ Possible interferences:
  - financial relationship with APMUs/ADOs
  - pre-existing links to previous stages of the dispute
  - antidoping laboratory-associated APMU
  - intervening on behalf of ADOs (prosecutors)
- ⦿ Expert independence is ensured by:
  - profile anonymity, multiple step procedure
  - scientific basis, recognized high moral standards
  - unanimity required: cases in which Expert opinion was changed
  - formal document about conflict of interest (?)
- ⦿ CAS awards: expert independence unaffected (not an issue for CAS panels)

# Trigger → Initial expert review (1<sup>st</sup> step)

## 3. The initial Expert review

For the Steroidal Module, if a result rendered by a Laboratory represents an ATPF, the Sample will undergo Confirmation Procedures including IRMS analysis. If negative, then the APMU/ADO should do further testing and/or seek an Expert review. If the Haematological Module renders an ATPF, then the results/profile must be reviewed by an Expert chosen by the APMU or manager of the ADO. This should occur in a timely manner.

The Expert shall review the Passport anonymously (without reference to the specific Athlete by name) and conduct his/her activities in strict confidence. The Expert shall evaluate the Passport and respond back to the APMU, which will trigger further APMU action:

<u>Expert</u> Evaluation	<u>APMU</u> Action
Normal.	Continue normal <i>Testing</i> pattern.
Passport suspicious: Further data is required.	Alert ADO to do Target <i>Testing</i> and provide recommendations.
Considering the information within the <u>Athlete's Passport</u> , it is highly unlikely that the longitudinal profile is the result of a normal physiological or pathological condition, and likely may be the result of the <i>Use</i> of a <i>Prohibited Substance</i> or <i>Prohibited Method</i> .	Send to two other <u>Experts</u> , as per section 4 of this Appendix.
Considering the information within the <u>Passport</u> , it is highly likely that the <u>Athlete</u> has a pathological condition.	Inform the <u>Athlete</u> via the <u>ADO</u> (or send to other <u>Experts</u> ).

- ADAMS notification
- Anonymous
- Lonely
- No or little corroborating information
- (Confidential)

January 2017 V. 6.0

## 3.4 Results Management Requirements and Procedures for the *Athlete Biological Passport* (ISTI Annex L)



ISTI, ISL

*Athlete Biological Passport* Operating Guidelines

# Initial assessment: systematic approach

- First evaluation on..... (or previous evaluations)
- Male, 37y
- T&F, long distance
- 8/9 samples, from... to...,  
2 INC, 6 OOC
- ABP status: atypical HB+OFFs
- Outliers: s. 4(HB+), s. 7 (OFF+), s. 8 (ret-)
- Suspicious samples? Date!
- ABPS
- MCV, MCHC, IRF
- CAT, BSS
- Time? Trends?
- Competition?

# Initial assessment: systematic approach

- Concentrate on suspicious samples, their distribution: HB, OFFs, RET, IRF
- Identify possible sequence of stable and hypothetically basal results (final part?)
- Time/trend of changes, possible relationship with competition
- DCFs: discipline, altitude, hypoxia, collection time
- Laboratory: XE, XT, XN? (SG)
- Be descriptive
- Avoid speculations, rigid **causal** interpretation and **casual** comments in this phase
- Provide targeting advice

Type	Sample Code*	Time of Collection*	Sent to Lab*
Blood passport	563146	07:58	LAB-Harlow-GBR-KCL -

ABP Supplemental Report Form	
Has the athlete been seated for ten minutes prior to blood collection?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Was the sample collected immediately following at least three consecutive days of competition (hemodilution expected)?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Has the athlete had a training session or competition in the past two hours?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Has the athlete trained, competed or resided at an altitude greater than 1000 meters within the previous two weeks?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Has the athlete used any form of altitude simulation, such as a hypoxic tent, mask, etc during the previous two weeks?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Has the athlete donated blood or lost blood as a result of medical or emergency condition during the previous three months?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Has the athlete given or received any blood transfusion(s) during the previous three months?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Has the Athlete been exposed to any extreme environmental conditions in the 2 hours prior to blood sample collection?	<input type="radio"/> Yes <input type="radio"/> No



# The Joint Expert Panel Report (2<sup>nd</sup> step)

## ⦿ Conference call (2 or 3 LD + APMU):

- additional information
- discussion
  - LD agreement → LDPs or CA
  - no consensus: further tests, targeting plan
  - advice from an appropriate outside Expert



## ⦿ Written Joint Expert Panel Report

- unanimous opinion:
  - doping is highly likely
  - doping is not highly likely
  - impossible to reach

# Avoid the prosecutor's fallacy

- ⊙ The low evidence of an element...
  - normality
  - confounding elements
  - pathology
- ⊙ ...does not automatically increases the likelihood of another:
  - i.e., doping
- ⊙ Correct reasoning: assuming a known form of doping, how likely is this passport?

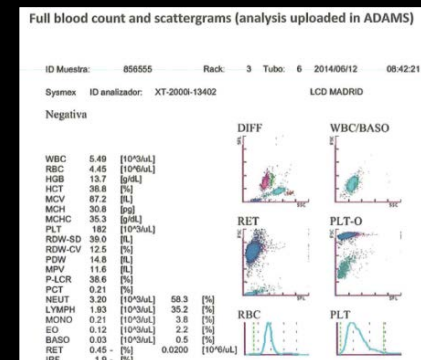
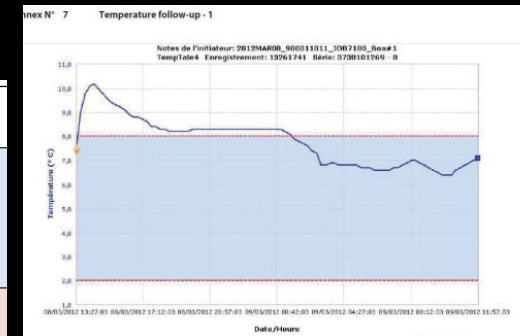
# Questions for the experts

- ⦿ How likely is this Athlete's profile assuming normal physiological variation?
- ⦿ How likely is this Athlete's profile assuming a pathological condition?
- ⦿ How likely is the Athlete's profile assuming doping?
  - Which is the likely doping pattern/scenario?

# Expert assessment of Athlete's explanations

- ⦿ Examine reports by Athlete's experts, private test results, clinical records, training and altitude data, ABP criticisms, alleged sample invalidation, etc.
- ⦿ Assess everything on the basis of clinical knowledge, scientific literature, credibility of documents...
- ⦿ Patiently reply in detail to explanations with clear and robust arguments and either:
  - dismiss and confirm the APF opinion, or
  - explain why you consider a justification credible, or
  - admit that experts disagree
- ⦿ Withstand multiple rounds of explications and new defence expert reports

Valid sample	Objections	Answer: reasons for validity
6	No data logger, no temperature record during transport, no chain of custody nor shipment tracking documentation.	Transported by hand, "refrigerated" at reception, stored at 4°C after 1 hour and 35 minutes of transport, analyzed after less than 5 hours ("fresh" blood). Sysmex report does not show any sign of degradation and red cell indices are in the average for the athlete.
7	No data logger, no temperature record during transport.	Refrigerated during transport (shipment document), "refrigerated" at reception in the lab. Sysmex report does not show any sign of degradation and red cell indices are in the average for the athlete.
8	No data logger, no temperature record during transport.	Refrigerated during transport (shipment document), "refrigerated" at reception in the lab. Sysmex report does not show any sign of degradation and red cell indices are in the average for the athlete.
12	No data logger, no temperature record during transport. No chain of custody nor shipment tracking documentation.	Transported by hand, "refrigerated" at reception, stored at 4°C after 1 hour and 14 minutes of transport, analyzed after 2.19 hours ("fresh" blood). Sysmex report does not show any sign of degradation and red cell indices are in the average for the athlete.
13	No data logger, no transport temperature monitoring, no temperature at reception, no shipment tracking.	Chain of custody is included in LDP ( <i>Nachweis der dopingproben von der entnahme bis zum versand</i> ), together with documentation of shipping (World Courier), receipt of intact sample and documentation of sample identification. Sysmex report do not show any sign of degradation and red cell indices are in the average for the athlete.



TAS 2010/A/2308 et TAS 2011/A/2335; page 12

57. En l'espèce, après avoir évalué les avis des experts aussi lors de l'audience, la présente Formation est d'avis que l'Athlète n'est pas parvenu à prouver que d'éventuelles irrégularités secondaires auraient pu raisonnablement causer l'anormalité de son ABP.

...the Athlete was unable to demonstrate that possible irregularities could reasonably have caused the anomaly of his ABP.

83. The attack on the analysis had two main prongs; in relation to the 19 April 2009 sample the issue was whether it was properly mixed; in relation to the 29 August 2009 sample the issue was whether the external quality controls were effective. The CAS Panel accepts the evidence of Prof D'Onofrio, an expert in haematology, which, in its judgment, complemented by the disclosed documentary evidence from the laboratory, satisfactorily rebutted that assault. The consistency of the aliquots tested on 29 August repels the first challenges. The internal quality controls repel the second. Pursuant to direction by the CAS Panel, UCI provided (albeit in redacted form) the results of other samples analysed on both 27 April and 29 August 2009, which gave no indication as to any analytical problems. The CAS Panel does not criticise the Athlete's lawyers for taking all reasonable steps to see if some fatal flaw could be found in the analytical procedure. It can only comment that the exercise of the inquiry in the event yielded no forensic fruit. It is not without interest that both in his initial explanation dated 5 March 2010 and in the pre defence email from his lawyer dated 17 May 2010 the Athlete's challenge was not to the accuracy of the results of the blood tests but to the legitimacy of drawing any adverse inference from them. The presumption of regularity enshrined in article 24 of the UCI ADR was not displaced.

# Preparation and participation in legal proceedings (4<sup>th</sup> step)

- ⦿ Support to the ADO legal office for hearing preparation
- ⦿ Answer lawyers' specific questions and contribute to strategy planning
- ⦿ Collaboration with external experts (gastroenterologist, endocrinologist, cardiologist, infectivologist...)
- ⦿ A variety of formats for expert witnesses:
  - written opinion
  - skype/telephone witness
  - separate hearing (like a fact witness, cross-examined by parties)
  - conference hearing (debate on scientific issues)

# Panels and hearings



- ⦿ National governing bodies, IFs, arbitral panels (CAS)
- ⦿ Panels assess the facts of the case
- ⦿ Equal access to expertise → contradictory expert reports, conflict of expert evidence
- ⦿ Panels have a duty to weigh differing expert opinions and assess the plausibility of their conclusions
- ⦿ Standard of «comfortable satisfaction»
- ⦿ Necessity of a specific preparation and training on ABP and Bayesian reasoning
- ⦿ Some arbitrators are now ABP «legal» experts

# Panels and hearings

**Athlete Biological Passport: the Juridical Viewpoint**  
 Author(s) Richard H. McLaren | Rating: ☆☆☆☆☆ (no ratings yet)

This article was published in:

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**The Athlete Biological Passport: Legal And Scientific Aspects**

**Massimo Coccia**  
 CAS Arbitrator, Professor of International Law, Director at Coccia De Angelis Agency and Assistant Law Firm in Rome, Italy

**I. Introduction**

After anti-doping cases are based on "adverse analytical findings", there is no previous analytical evidence of prohibited substances in the blood or urine of the tested athlete. In fact, as I.1 of the World Anti-Doping Code (WADC) stated by the World Anti-Doping Agency (WADA) prohibits the "presence" of a prohibited substance in an athlete's or a team's sample, an athlete's bodily sample "This presence may be in a form of mere liability, as the doping offence is automatically presumed to have occurred whenever a prohibited substance is analytically found in the athlete's sample, regardless of the athlete's fault or negligence".

However, the traditional anti-doping approach, based on the athlete's positive finding, might be questioned when it comes to the evidencing relevance of doping substances and the evidencing relevance of a number of questions in cases' based on the following

The Athlete Biological Passport: Legal And Scientific Aspects

11.1 Main Features of the Athlete Biological Passport.....

11.1.1 Basic Principles Underlying the Athlete Biological Passport .....

11.1.2 Current Haematological and Steroidal Modules .....

11.1.3 Procedure for Cases Based on the Athlete Biological Passport .....

11.2 Challenges for Implementing the Athlete Biological Passport .....

11.2.1 System of Legal Rules or Scientific Evidentiary Method? .....

11.2.2 Integrating a New Paradigm into a Pre-Existing Framework .....

11.2.3 **Chapter 11** .....

11.3 Evaluation of the Athlete Biological Passport: .....

11.3.1 **Scientific Hypotheses** .....

11.3.2 **Legal Hypotheses** .....

11.3.3 **Irreducibly Quantitative Factors** .....

11.4 Role Distribution Between Scientific Experts and Hearing Panels .....

11.4.1 Independence and Impartiality of the Experts .....

11.4.2 Hearing Panel's Dependency on Expert Opinions .....

11.5 Demise of Strict Liability and Presumed Fault? .....

11.5.1 The "Doping Scenario" .....

11.5.2 Residual Room for Fault-Related Adjustment of the Sanction .....

- Coccia, Int Sport Law Rev. 2013
- McLaren, Int Sport Law Rev. 2012
- M. Viret, *Evidence in Anti-Doping at the Intersection of Science and Law*, 2016 ASSER Int. Sports Law Ser

- ⊙ " In assessing expert evidence, the hearing body should particularly consider:
  - The expert witnesses' respective standing, experience and publications;
  - Whether an expert's opinion is soundly based on the facts;
  - Whether the conclusions derived from those facts are sound, correct and logic; and
  - The consistency of the expert's opinion with published research"
- ⊙ "(...) quality, character, and ability of experts is a central issue in any legal proceeding"



# Role of the Experts at Hearings

- Explain general aspects of the ABP passport
- Describe features of the specific ABP passport
  - quantitative (ATPF, breaches), but within ABP logic:
    - the abnormality is in a sequence of samples, not in a single sample
  - qualitative - present evidence regarding:
    - the chance of observing the profile in different scenarios
    - the likely doping pattern unanimously identified
- Focus on possible explanations, including Athlete's justifications, and not on guilt or innocence
- Remain within our own area of expertise
- Provide clear answers to defense lawyers and experts and to Panel's questions



# The Expert BEs



- ◉ BE professional: never venture outside your area of expertise; never conclude as to guilt or innocence
- ◉ BE balanced: all possible explanations for the profile should be carefully evaluated
- ◉ BE logic: highlight the direction of the assessment of evidence
- ◉ BE robust: base your opinion on scientific grounds
- ◉ BE transparent: the expert should be able to reproduce at any time how he came to his conclusion
- ◉ BE confident: believe in any statement you are saying
- ◉ BE patient and ready to calmly answer any question
- ◉ Be independent: change of opinion in any phase is not a shame
- ◉ BE clear: present principle, facts and scientific evidence with clear sentences