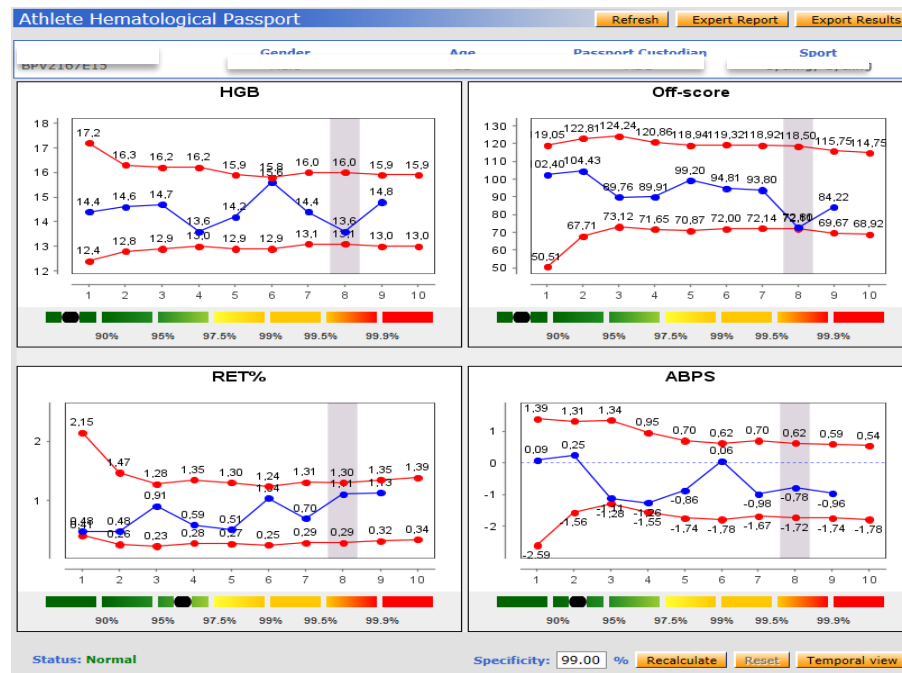


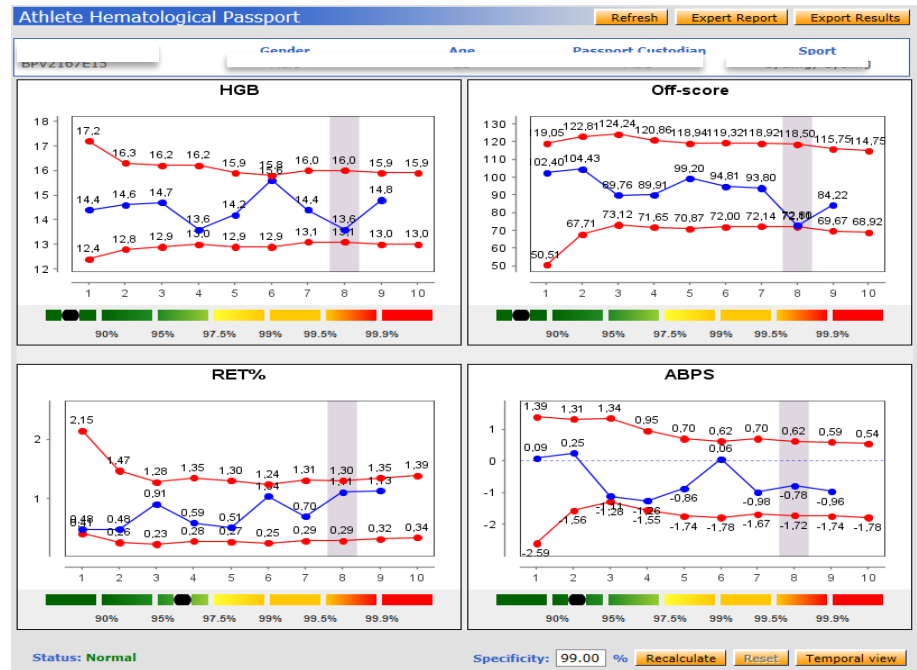
# Athlete Biological Passport



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 Scientific Consultant  
 Anti Doping Denmark

# The Concept

- Instead of detecting the substance itself the ABP monitors specific markers in the individual athlete over time that are relatively stable but change after doping.
- Main objective:
  - Indirect evidence of doping.
  - Improves target testing and analysis.
  - Less testing on certain athletes (better use of resources)

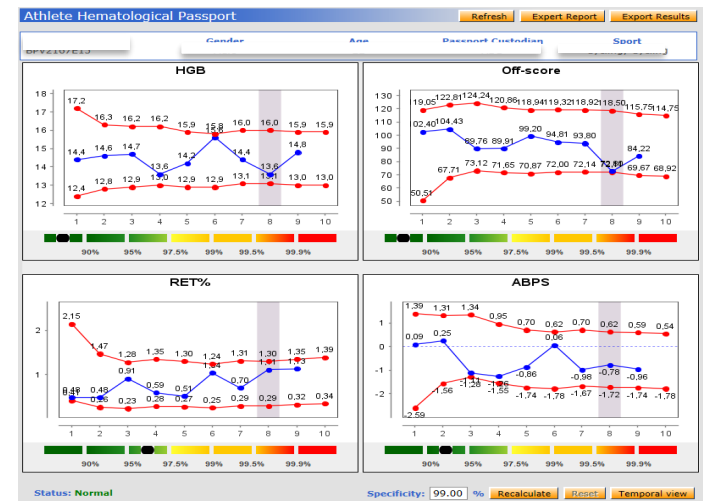
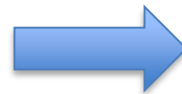


# Modules in the Athlete Biological Passport

- All athletes with Doping Control Form (DCF) information entered into ADAMS are matched to an analysis result:
  - Blood Passport (athletes in high-risk sports for blood manipulation, TDSSA: ESA MLA 30% mandatory in 2018)
  - Steroid Passport (every athlete providing an urine sample). 80% of DCFs now goes into ADAMS
  - Endocrine Passport: GH biomarker score. Implemented???

Athlete	ADAMS ID#	Date of birth	Sport Nationality	Gender
111051	Sample Code	111051	DENMARK	Male
Blood passport	Sample Type	Blood passport		
21-Sep-2015	Sample Collection Date	21-Sep-2015		
ADD - Anti Doping Denmark	Result Management Authority			
ADD - Anti Doping Denmark	Sample Collection Authority	ADD - Anti Doping Denmark		
ADD - Anti Doping Denmark	Testing Authority	ADD - Anti Doping Denmark		
Cycling   Road	Sport	Cycling   Road		
Out of Competition	Test Type	Out of Competition		
DENMARK	Country	DENMARK		
Vanløse	City	Vanløse		
LAB-Copenhagen-DEN - Copenl	Lab	LAB-Copenhagen-DEN - Bilspebj		

complete check



# Blood Sample Collection

- Educated Blood Collection Officer (BCO)
- Dedicated Doping Control Form
- Special Equipment
  - Transportation Bag
  - Temperature Logger

The image shows a detailed form titled "ATHLETE BIOLOGICAL PASSPORT - SUPPLEMENTARY REPORT FORM" in both English and Danish. The form is divided into several sections:

- MISSION INFORMATION**: Includes fields for the date, location, and name of the BCO.
- ATHLETE BIOLOGICAL PASSPORT INFORMATION**: Contains checkboxes for whether the athlete has been notified of the collection, if they have signed a consent form, and if they have provided a urine sample.
- 3. CONFIRMATION**: A section for the BCO to confirm the collection and provide their signature and date.

The form also includes a "SAMPLE ID" field with the value "XXXXX" and various checkboxes for "YES" and "NO" responses to specific questions.

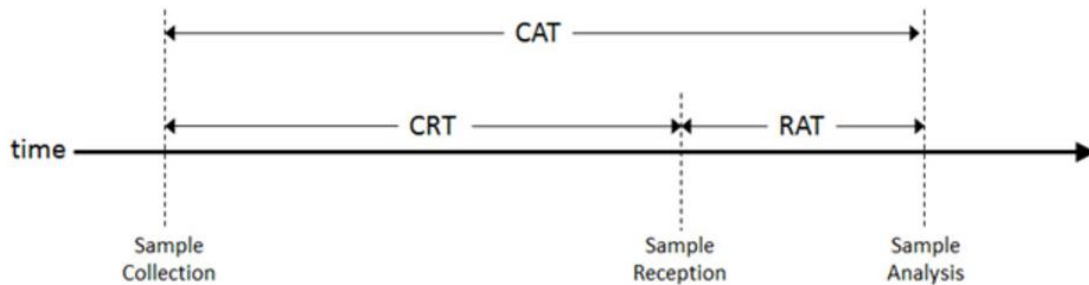
# Confounding Factors

Type **Blood passport** Sample Code\* Time of Collection\* Sent to Lab\* ✕

### ABP Supplemental Report Form

- Has the athlete been seated for ten minutes prior to blood collection?  Yes  No
- Was the sample collected immediately following at least three consecutive days of competition (hemodilution expected)?  Yes  No
- Has the athlete had a training session or competition in the past two hours?  Yes  No
- Has the athlete trained, competed or resided at an altitude greater than 1500 meters within the previous two weeks?  Yes  No
- Has the athlete used any form of altitude simulation, such as a hypoxic tent, mask, etc during the previous two weeks?  Yes  No
- Has the athlete donated blood or lost blood as a result of medical or emergency condition during the previous three months?  Yes  No
- Has the athlete given or received any blood transfusion(s) during the previous three months?  Yes  No
- Has the Athlete been exposed to any extreme environmental conditions in the 2 hours prior to blood sample collection?  Yes  No

# Blood Stability Score – Longer Transportation



Currently: CRT = 36 hours, RAT = 12 hours, CAT = 48 hours

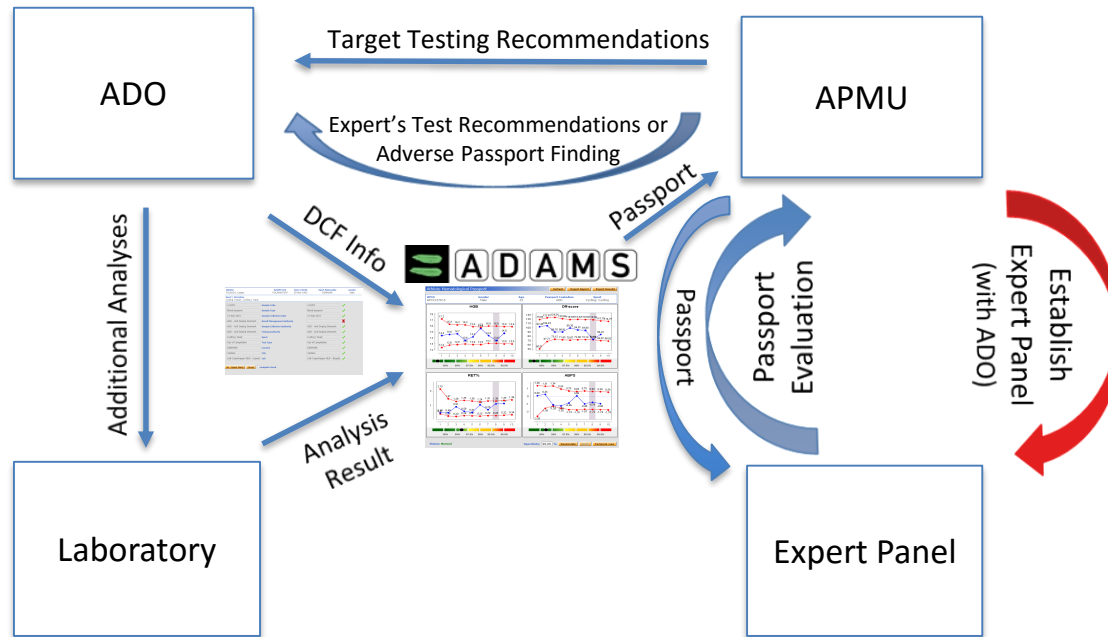
**New Rule: Blood Stability Score = 3 \* T + CAT**  
**BSS < 85**

T the average Temperature (in degrees Celsius) measured by the data logger between *Sample* collection and analysis.

~12 hours is allowed at the lab for analysis

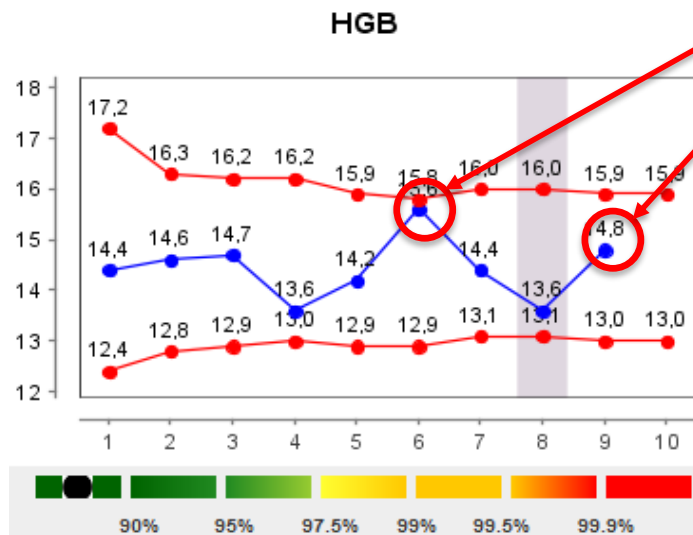
T [°C]	CRT [h]
15	35
12	41
10	46
9	48
8	50
7	53
6	55
5	58
4	60

# ABP Work Flow



# Role of the Athlete Passport Management Unit

- Target Testing Recommendations:



11
12
13
14
15.....

**Short-term**

- Additional analyses
- Long-term storage
- Assessment of sample validity (experts and lab consultation)

**Mid-term**

- Next Test (IC/OOC, Urine/Blood etc.).
- Liase with ADO (competition schedule, travel activities etc.)

**Long-term**

- Prioritize testing ressources (who, how many (athletes, samples, analysis etc.), which (samples, analysis etc.) and when)?



## Lab-Affiliated Athlete Passport Management Units

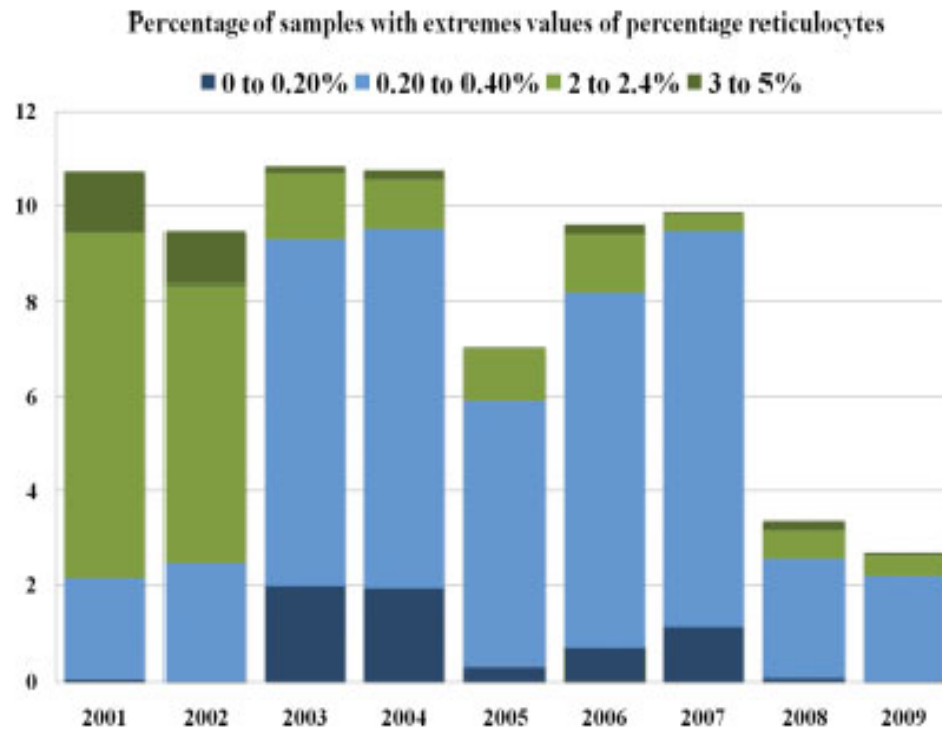
- Every larger IFs use lab associated APMUs
- 24 NADOs use APMUs



List of Athlete Passport Management Units (APMUs) associated with WADA accredited laboratories

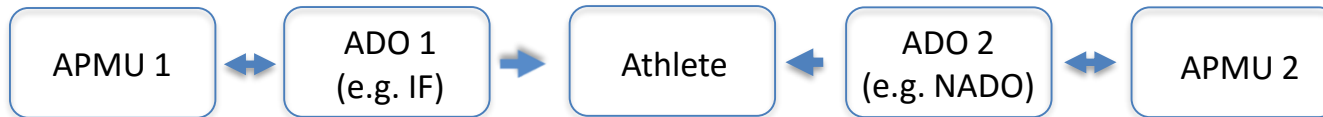
Laboratory	Contact E-mail	Location of Laboratory
DoCoLab Universiteit Gent- Ugent	Peter.VanEenoo@ugent.be	Ghent, Belgium
Laboratoire de contrôle du dopage INRS-Institut Armand-Frappier	christiane.ayotte@iaf.inrs.ca	Montreal, Canada
Agence Française de Lutte contre le Dopage (AFLD)*	analyses@afl.fr	Paris, France
Institute of Biochemistry - German Sport University Cologne / Institute of Doping Analysis and Sports Biochemistry (IDAS)-Dresden*	h.geyer@biochem.dshs-koeln.de	Cologne, Germany
Seibersdorf Labor GmbH Doping Control Laboratory*	guenter.gmeiner@seibersdorf-laboratories.at	Seibersdorf, Austria
Anti-Doping Laboratory LSI Medience Corporation	Kageyama.Shinji@mk.medience.co.jp	Tokyo, Japan
Norwegian Doping Control Laboratory - Department of Pharmacology Oslo University Hospital	jenny.schulze@antidoping.no	Oslo, Norway
Department of Anti-Doping Research Institute of Sport	dorota.kwiatkowska@insp.waw.pl	Warsaw, Poland
Laboratoire Suisse d'Analyse du Dopage - Centre Hospitalier Universitaire Vaudois et Université de Lausanne	athlete.passport@chuv.ch	Lausanne, Switzerland
The Sports Medicine Research and Testing Laboratory (SMRTL)	de@smrtl.org	Salt Lake City, United States of America
Laboratorio Antidoping FMSI, Rome	xavier.delatorre@fmsi.it	Rome, Italy

# Effect of Implementation



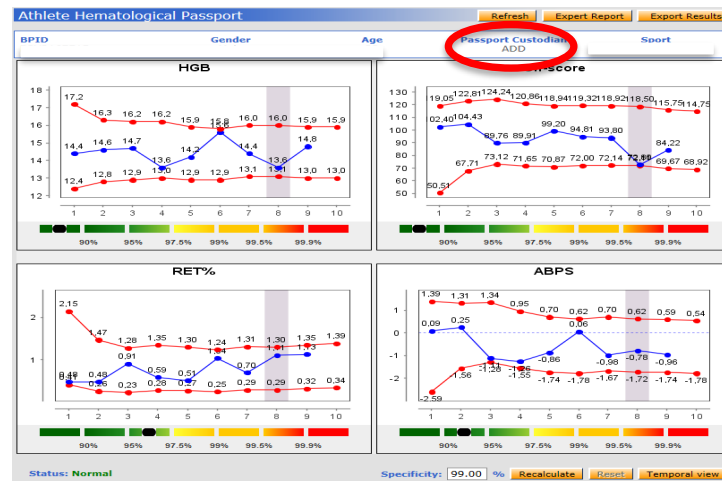
**Figure 3.** Percentage of sample whose RET% values are extremes: low values (blue) are typical of an OFF phase (previous intake of ESA or blood transfusion), while high values (green) indicates an ON phase (recent use of ESA or haematological disease).

## 'Passport Custodian' - Collaboration between ADOs



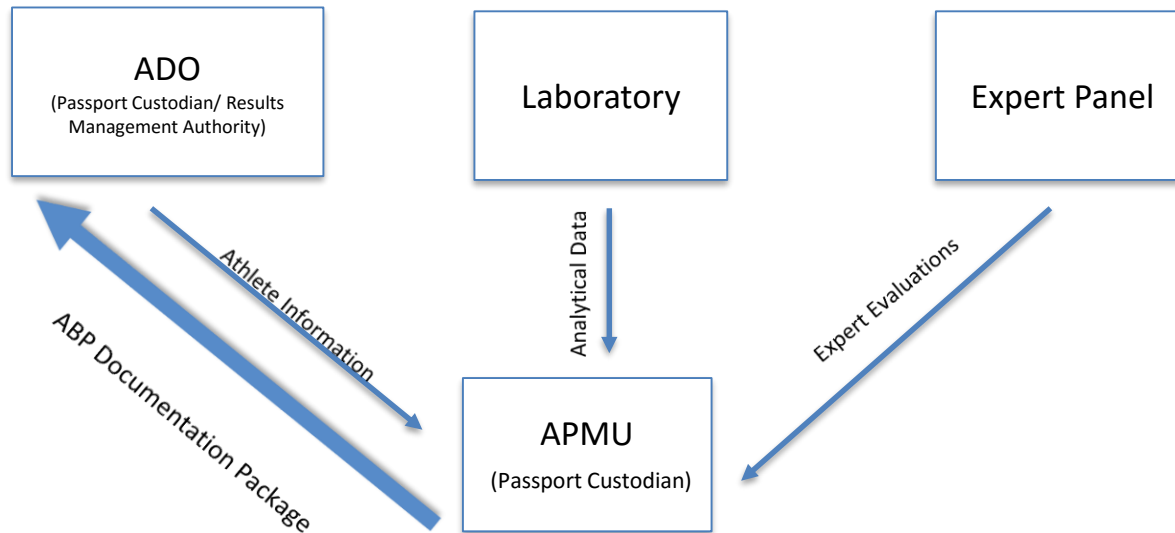
- Administrative Management (ABP Operating Guidelines version 5.0): The ADO referred to throughout this document on Results Management is the *Passport Custodian* :

The screenshot shows the ADAMS system interface. The 'Athlete Profile' page is displayed, with the 'Security' tab selected and circled in red. Below the profile information, the 'Whereabouts custodian organization' section is highlighted with a red circle, showing details for 'ADD - Anti Doping Denmark'.



# Results Management

- *Athlete Biological Passport* Documentation Package: The material produced by the Laboratory and Athlete Passport Management Unit to support an *Adverse Passport Finding* such as, but not limited to, analytical data, Expert Panel comments, evidence of confounding factors as well as other relevant supporting information (Athlete Biological Passport (ABP) Operating Guidelines version 5.0).



# Results Management

- Intentional violations
  - 4 years for ABP (presumption: non-specified substances or prohibited method)
  - Nearly impossible to rebut presumption of intention
    - Injection/infusion
    - Repeated courses
- Aggravating circumstances (the more of the below, the higher the sanctions)
  - Multiple substances/methods
  - Multiple occasions
- Recent cases have shown longer sanctions than previously
- ABP has been considered to be reliable (CAS)
- No need to establish scenario (IAAF vs Kokkinariou)
- Disqualification of results
  - Default rule – back to first violation (crucial to identify first evidence of doping)

## Summary

- Strategically collect samples at appropriate times
    - Mix of off season, leading up to major and minor events, comparing between seasons
  - IFs and NADOs collaboration (avoid duplicate testing)
  - Use ABP to drive special analysis requests and use resources on specific athletes with suspicious ABP
  - Engage with APMU
-

ANTI DOPING DANMARK



**Thank you!**

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