



## Storage and retesting of the anti-doping samples: best tool for deterrence?

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## **Abstract**

Long term storage of the anti-doping samples and their re-analyses becomes today more and more a trend in the anti-doping community. The procedure has been implemented by the anti-doping authorities for the samples of the Tour de France and for the Olympic Games since Athens 2004 and has been always presented as a good tool to deter doping habits in top level sport.

Recently, the World Anti-Doping Code introduced the possibility for anti-doping organizations to store the athletes' samples up to ten years. The anti-doping authorities may ask to reanalyze the samples at any time during that period of time as a function of the implementation of new methods or instruments in the accredited laboratories allowing the detection of prohibited substances or their metabolites at a much lower concentration or for a larger detection window than previously possible.

The most significant technological advances for the detection of doping substances have been done in the identification and characterization of various long-term metabolites of anabolic androgenic steroids by GC-MS and/or LC-MS. This even allowed for increasing the time of detection by a factor of four.

## **Questions**

1. Why should the samples be stored up to 10 years and re-analyzed only then?  
Benefits and drawbacks of this approach.
2. Long term metabolites: definition, analytical strategies for identification and characterization in doping control.
3. Inter-individual variation and retesting: how can the inter-individual variations in the metabolism of prohibited substances influence the analysis results and retesting strategy?
4. Analytical techniques: advantages and drawbacks of new analytical platforms in anti-doping analyses.
5. Is the retesting approach a real deterrence to athletes?
6. In your opinion, are there other alternatives/additional approaches to improve the fight against doping in the future?

## References

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