



International Alliance for  
Biological Standardization

## Animal Testing Replacement for Vaccines. A One Health View: Global Outlook and Future Strategy

December 2-4, 2025  
Bangkok, Thailand

### EDQM's support for the 3Rs – status update and insights into Ph. Eur. General Chapter 5.2.14

#### Session 5 – Regulatory Perspectives on Progress in Method Acceptance Mihaela BUDA, EDQM, France

The EDQM is actively involved in promoting the application of the 3Rs principles in the quality control of vaccines. The European Pharmacopoeia (Ph. Eur.) General chapter 5.2.14. *Substitution of in vivo method(s) by in vitro method(s) for the quality control of vaccines*, provides a framework for introducing alternative *in vitro* approaches where traditional head-to-head comparisons with *in vivo* methods are not feasible or scientifically relevant. This presentation outlines the rationale behind the chapter, its guidance on demonstrating the relevance and performance of *in vitro* methods, and its role in facilitating regulatory acceptance of innovative approaches. Drawing on recent revisions of Ph. Eur. texts and projects from the EDQM's Biological Standardisation Programme projects, the presentation will also showcase practical examples of how EDQM and the Ph. Eur. are driving the transition toward animal-free testing, advancing both animal welfare and scientific integrity.

### An EDQM update on pyrogenicity in European Pharmacopoeia

#### Session 7 - A new pyrogenicity strategy: How MAT and recombinant BET are changing the approach to pyrogenicity Mihaela BUDA, EDQM, France

The European Pharmacopoeia (Ph. Eur.) has achieved a major milestone in pyrogen testing by eliminating the Rabbit Pyrogen Test (RPT) from all its texts, effective July 2025, with full removal of the chapter by January 2026. This marks a significant shift toward modern *in vitro* approaches for pyrogenicity testing such as the Monocyte Activation Test and Bacterial Endotoxins Test (BET), including the use of recombinant Factor C. The presentation provides an overview of the historical evolution of pyrogenicity strategies, the implementation of the RPT phase-out, and the integration of recombinant reagents into the Ph. Eur. It highlights ongoing revisions to chapters 2.6.14 and 5.1.13, harmonisation efforts within the Pharmacopoeia Discussion Group, and EDQM's initiatives to establish reference standards for BET and MAT. Perspectives from regulators, industry, and global stakeholders underscore the significance of this achievement for animal welfare, sustainability, and scientific innovation in quality control testing.

