



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

Building Competence in Non-Animal Testing Strategies for Vaccine Quality Control

The global transition toward replacing, reducing, and refining animal testing in vaccine quality control requires not only scientific innovation but also strong and coordinated efforts to build competence and confidence in alternative testing strategies. Drawing on previous experience as an immunologist at the Animal Production and Health Section of the Joint FAO/IAEA Centre and current work as a laboratory specialist with FAO ECTAD in Asia and the Pacific, this abstract outlines practical pathways for National Control Laboratories to develop, validate, and adopt non-animal testing approaches, including in-vitro assays and immunoinformatic, to predict and/or evaluate vaccine efficacy.

Key enablers such as robust quality systems, strategic and sustained capacity building, and strengthened regional collaboration are highlighted, with examples from ongoing FAO-supported initiatives in the Asia Pacific region. The presentation will propose a structured and progressive roadmap consisting of assessment, pilot implementation, mentorship, and institutionalization to guide countries in transitioning toward modern, humane, and more reproducible vaccine testing strategies. These efforts promote animal welfare, enhance vaccine supply chain resilience, advance One Health objectives, and reinforce preparedness for emerging and re-emerging infectious diseases.

1. Determination of Vaccine Immunogenicity Using Bovine Monocyte-Derived Dendritic Cells - PubMed
2. Irradiated Non-replicative Lactic Acid Bacteria Preserve Metabolic Activity While Exhibiting Diverse Immune Modulation - PubMed

