



International Alliance for
Biological Standardization

Bovine Serum Meeting: Challenges and opportunities in the research and development and manufacture of vaccines and other biological products

**September 29-30, 2026
Budapest, Hungary**

Title: How can BVDV and other extraneous agents end up into bovine serum?

Paul Becher, University of Veterinary Medicine Hannover

Bovine serum, particularly fetal bovine serum (FBS), provides unique and important growth promoting factors for optimal cell growth and is frequently used in research and manufacturing of biomedical products, including vaccines. The potential presence of contaminating viruses in bovine serum poses a serious risk to vaccine safety. Bovine viral diarrhea virus (BVDV) has been an illustrative example of viral contaminants in bovine serum which have caused incidents linked to contaminated veterinary vaccines. The presence of BVDV in bovine serum is primarily due to transplacental infection of the fetus between the 40th and 125th day of gestation, which results in highly specific immunotolerance followed by lifelong persistent infection. BVDV and other BVDV-related pestiviruses belong to the genus *Orthopestivirus* within the family *Pestiviridae*. At least five different pestivirus species can infect cattle. While some countries have implemented control programs to eradicate BVDV-1 and BVDV-2, other ruminant pestiviruses are not addressed by these programs, and in many countries, there are no or only limited measures in place to control BVD. It should be noted that there are several other viruses (e.g. bluetongue virus, bovine herpesvirus-1, parainfluenzavirus-3,...) that can contaminate materials of animal origin. The application of advanced molecular methods for virus testing in starting materials and finished products can enable the detection of both known and unknown viruses.

