

Veterinary references

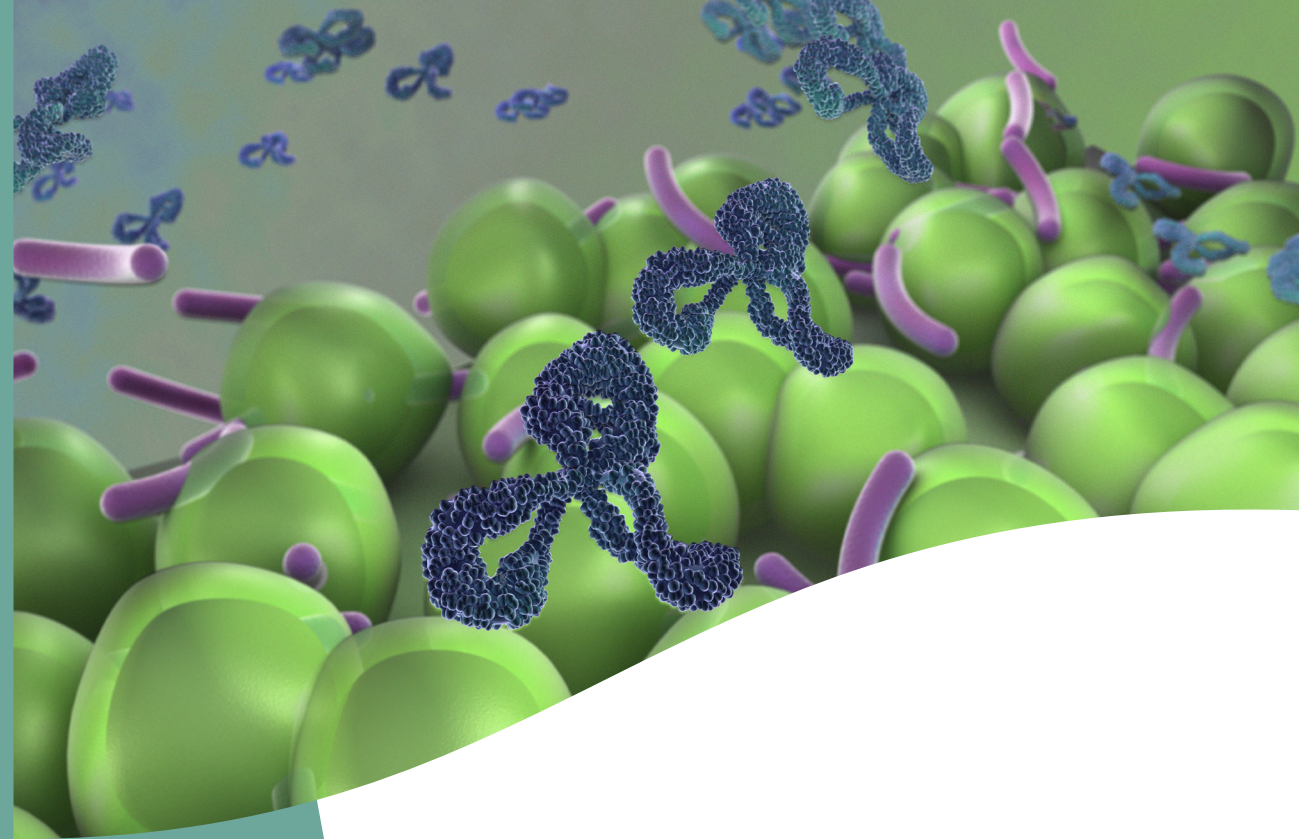
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Immune monitoring in Veterinary Research

Mabtech provides a wide range of monoclonal antibodies and kits for use in ELISA, ELISpot and FluoroSpot.
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Mabtech is continually expanding the range of reagents and kits for veterinary immunology research. These products are useful tools for basic immunology research and evaluation of new vaccines.

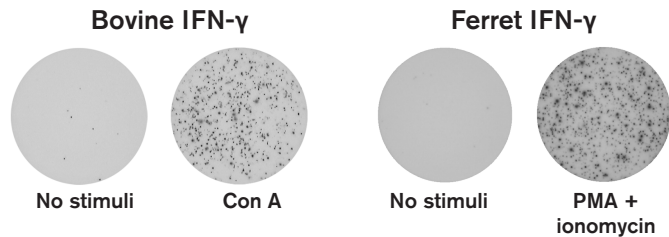
ELISpot – a sensitive assay for quantification of cytokine-secreting cells

With detection levels as low as one cell in 100,000, the ELISpot assay is one of the most sensitive assays available. It is suitable for both individual testing and large-scale screening. The IFN- γ ELISpot is often used to define vaccine efficacy by measuring the capacity to elicit potent T-cell responses, e.g. in studies of infectious diseases. The assay is a standard tool in vaccine development, especially for vaccines against diseases that require protective cell-mediated immunity.

IFN- γ assays

Assays for measuring IFN- γ release are available for several species and provide an excellent tool to assess and monitor antigen-specific T-cell responses.

Bovine IFN- γ ELISA and ELISpot assays are being used for diagnosing tuberculosis infection. Monoclonal antibodies (mAbs) and kits to measure ferret IFN- γ are the latest addition to our panel of IFN- γ reagents, which enable researchers to use the ELISpot assay, e.g. for influenza vaccine development.

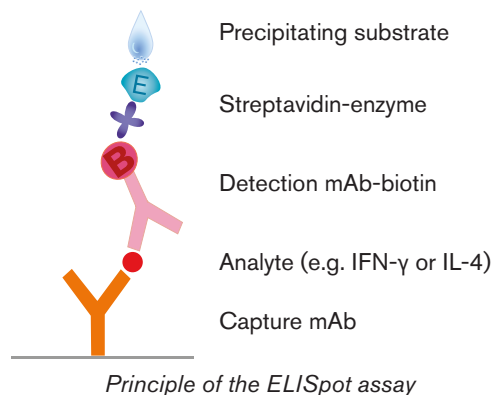


ELISpot analysis of bovine IFN- γ and ferret IFN- γ secreting cells. Bovine PBMC were incubated overnight in the absence (100,000 cells/well) or presence (25,000 cells/well) of Con A. Ferret splenocytes were incubated for 21 hours in the absence (200,000 cells/well) or presence (25,000 cells/well) of PMA/ionomycin.

Other analytes of interest

By analyzing other cytokines, in addition to IFN- γ , the ELISpot assay can also provide qualitative information about the type of responding T cell. For instance, **IL-4**, the hallmark of Th2 cells, is of particular interest when investigating immune responses to helminth infections.

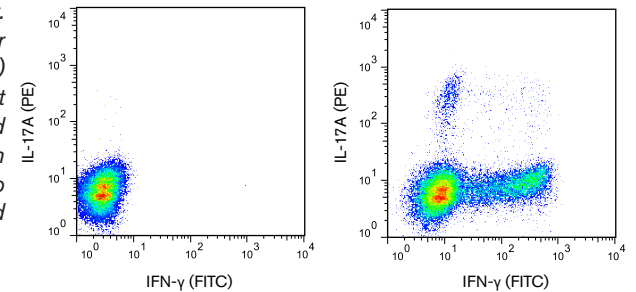
Within the veterinary field, **IL-8 (CXCL8)** is also of great interest. It is released by innate immune cells such as macrophages and by endothelial cells to recruit neutrophils and other granulocytes to the site of infection. Studies to investigate the involvement of IL-8 in the pathogenesis of various types of mastitis



in cattle are important for the dairy industry. IL-8 is also a key pro-inflammatory factor in the pathogenesis of Lyme disease.

IL-17A is a pro-inflammatory cytokine produced by activated Th17 cells and certain cells of the innate immune system. Th17 cells play an important role in autoimmune diseases and protection against bacterial and fungal infections.

Bovine IFN- γ and IL-17A Flow Cytometry. Bovine PBMC were incubated for 16 hours in the absence (left image) or presence of PMA/ionomycin (right image), both with Brefeldin A. Fixed and permeabilized cells were stained with IFN- γ mAb MT307-FITC and IL-17A mAb MT504-biotin. PE Streptavidin was used to detect IL-17A.



Mabtech products

Novel mAbs, mainly against cytokines, have been developed at Mabtech for use in ELISpot, FluoroSpot and ELISA assays. A selection of these antibodies is available for flow cytometry. The kits and reagents are available for research using samples from:

- Human
- Non-human primate
- Mouse and rat
- Veterinary species (cow, sheep, horse, pig, dog, ferret)

For more information about Mabtech products, please visit our website: www.mabtech.com

FluoroSpot

FluoroSpot is a useful method to study polyfunctional T cells and determine Th1 versus Th2 responses. It is also suitable for use when the supply of cells is limited. The assay is similar to the ELISpot method, but is based on fluorophore-labeled detection reagents to enable simultaneous analysis of secreted analytes.

