ELISA

Ready for reality

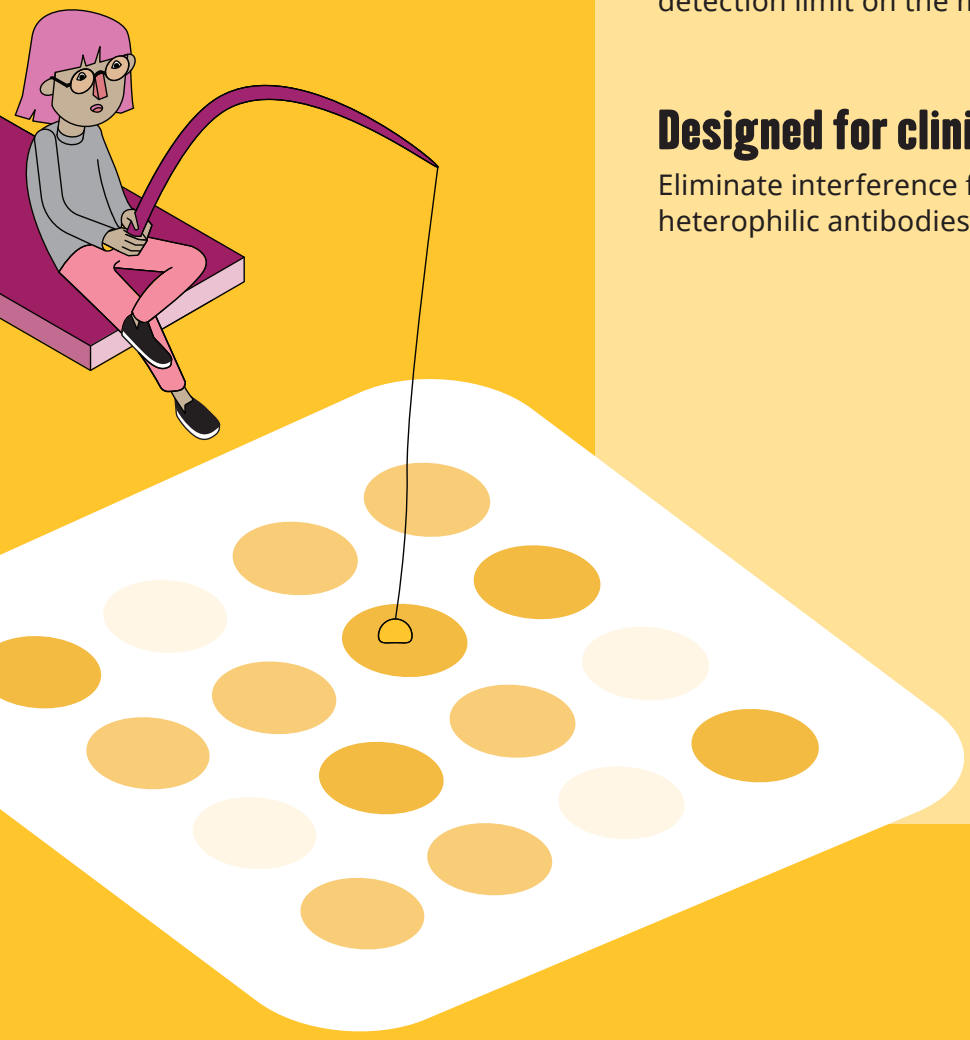
Our monoclonal antibody pairs are always selected for reactivity with native proteins

Detect low levels of analyte

We strive to develop ELISA kits with the lowest detection limit on the market

Designed for clinical samples

Eliminate interference from rheumatoid factor and heterophilic antibodies with ELISA PathRF kits



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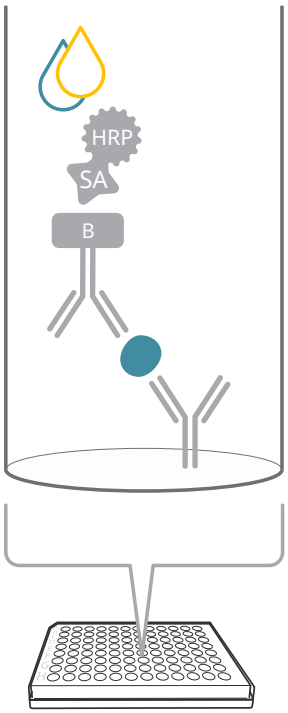
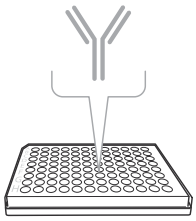
How does ELISA work?

ELISA enables quantification of **analytes in solution**. In our ELISAs, an antibody is coated onto the plate to capture the protein of interest in a given sample (for example cytokines). A second antibody is then used to detect the captured antigen. This detection antibody is labeled with biotin, facilitating subsequent binding of a streptavidin-enzyme conjugate.

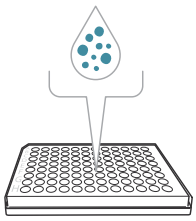
The addition of the substrate results in a colorimetric reaction that is directly proportional to the amount of protein bound. The concentration of protein in the sample is then determined. by comparison with a standard curve of known protein concentrations.



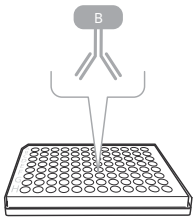
Step-by-step



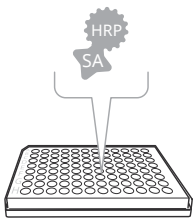
1. Coating
Capture antibodies are added to a plate with high protein-binding capacity.



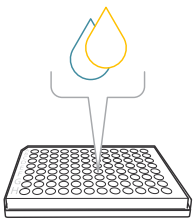
2. Analyte capture
Samples are incubated allowing the soluble analyte to be captured by the antibody.



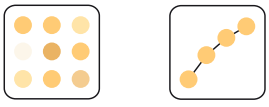
3. Detection antibody
Biotinylated detection antibodies are added to bind to the captured analyte.



4. Secondary detection
Addition of a streptavidin-enzyme conjugate enables enzymatic detection.



5. Substrate addition
A colorimetric substrate forms a colored solution when catalyzed by the enzyme. The intensity is proportional to the analyte concentration.

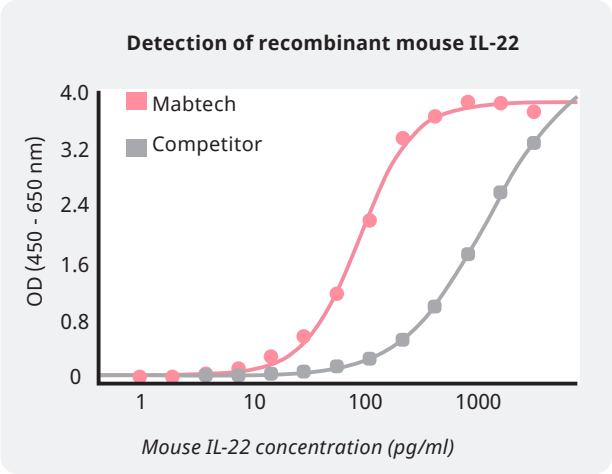


6. Analysis and calculation
Absorbance is measured in an ELISA reader, and the concentration of analyte is is quantified using a standard curve.

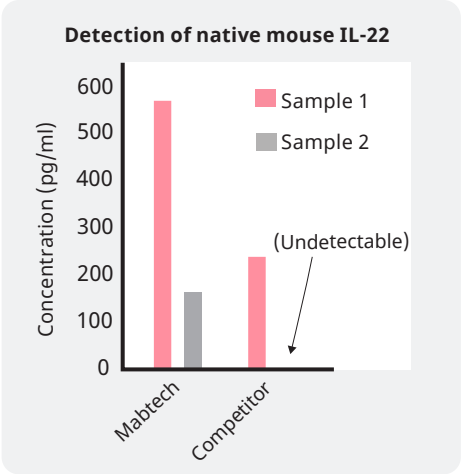
What makes Mabtech's ELISA special?

Detect the native protein

An ELISA is only as good as the antibodies that capture and detect the analyte of interest. Antibody features such as affinity, avidity, and antigen interaction are essential for a successful assay. At Mabtech, we put considerable effort into characterizing these antibodies, and we always validate the ELISAs for recognition of **native proteins** as this often differs from how the antibodies bind to recombinant proteins. The use of monoclonal antibodies makes our ELISAs extremely **specific and sensitive**.



Serial dilution of *E. coli*-derived recombinant mouse IL-22.

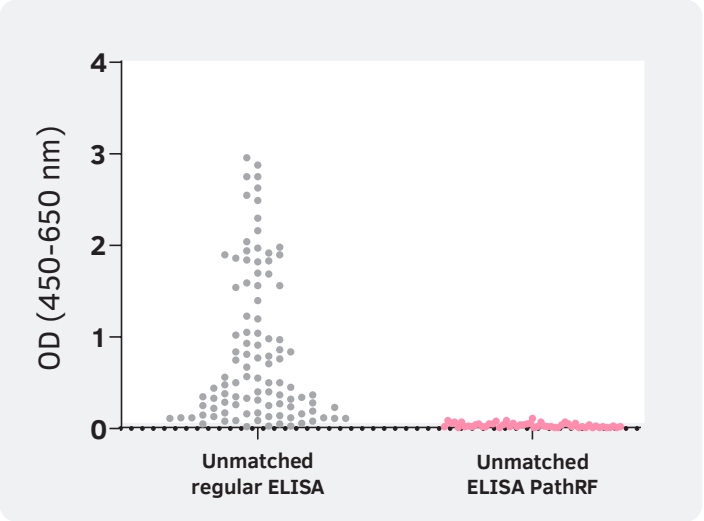


Mouse splenocytes stimulated with PMA/ ionomycin. Two samples of cell culture supernatants.

Prevent false-positive results

Our ELISA PathRF kits are designed to eliminate false-positive signals caused by **rheumatoid factor** and heterophilic antibodies. This **interference** is a recurring concern when analyzing clinical samples containing rheumatoid factor, which is typically found in samples from patients with autoimmune diseases.

In the graph: Plasma samples from patients with rheumatoid arthritis (n = 100) were measured using an unmatched ELISA or with an unmatched ELISA PathRF. Both ELISA assays contained the same unmatched set of antibodies, resulting in false-positive measurements in the regular ELISA and abolished interference using ELISA PathRF.



How is it used?

Cytokines

Cytokines are generally present in low quantities. Therefore, highly sensitive assays, such as our ELISAs, are required. In addition, when analyzing pico- and micro-quantities, the risk for interference by heterophilic antibodies must be considered. For this reason, we have developed buffers that reduce heterophilic antibody interference.

Popular products

ELISA Pro: Human IFN-γ

ELISA Pro: Mouse IFN-γ

ELISA Pro: Bovine IFN-γ

ELISA PathRF: Human IL-6

ELISA PathRF: Human IL-1β

Immunoglobulins

Quantifying antibodies in samples is straightforward if specific ELISAs are used. We provide kits for total IgG, IgA, IgM, IgE, and IgE[a]. In addition, our ELISAs can be modified to detect selected antigen-specific immunoglobulins.

For more detailed characterization of an immune response, subclass-specific mAbs are also available.

Popular products

ELISA Flex: Human IgG (ALP)

ELISA Flex: Human IgA (ALP)

ELISA Flex: Human IgM (ALP)

ELISA Flex: Mouse IgG (ALP)

ELISA Flex: Monkey IgA (HRP)

Which kit format to choose?

Choose from our different ELISA kit formats: adaptable **ELISA Flex** kits, straight-forward **ELISA Pro** kits (with everything included to ensure a reproducible assay), and specialized **ELISA PathRF** kits for clinical samples.

		Recommended	
	ELISA Flex *Adaptable*	**ELISA Pro** *Reproducible*	**ELISA PathRF** *RF-blocking*
ELISA plate	–	Pre-coated	Pre-coated
Capture mAb	√	Coated on plate	Coated on plate
Detection mAb, biotinylated	√	√	Recombinant
Detection mAb ALP/HRP	√*	–	–
ELISA standard	√	√	√
Streptavin-ALP/HRP	√	√	√
TMB substrate and stop solution	–	√	√
Buffers	–	ELISA diluent/ Assay buffer	RF-block diluent
Size	Reagents for 6 and 20 plates	1, 2, and 10 plates	1 plate

*Included for certain immunoglobulin analytes

Check out all of our kits

We have kits for numerous analytes in a number of **different species**, and we're regularly expanding our range of products. To stay up to date, please visit www.mabtech.com or scan the QR code.

Selected references

Our ELISA kits appear in numerous publications ranging from vaccine development to cancer and allergy research. Scan the QR code for a full list of references.

Asrat al., *Chronic allergen exposure drives accumulation of long-lived IgE plasma cells in the bone marrow, giving rise to serological memory,* Sci Immunol. 2020

Cirac et al., *Epstein-Barr virus strain heterogeneity impairs human T-cell immunity, Cancer immunology,* immunotherapy : CII. 2018

Gu et al., *Myeloid cell nuclear differentiation antigen controls the pathogen-stimulated type I interferon cascade in human monocytes by transcriptional regulation of IRF7,* Nat Commun. 2022

Lazo et al., *A recombinant SARS-CoV-2 receptor-binding domain expressed in an engineered fungal strain of Thermothelomyces heterothallica induces a functional immune response in mice*, Vaccine. 2022

Casales et al., *Idiotype vaccines produced with a non-cytopathic alphavirus self-amplifying RNA vector induce antitumor responses in a murine model of B-cell lymphoma*, Sci Rep. 2021

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About Mabtech

Mabtech is a Swedish biotech company that was founded in 1986.
Our mission is to aid scientists to reach new frontiers through optimal immunoassays and instruments.

Nacka 02/2023