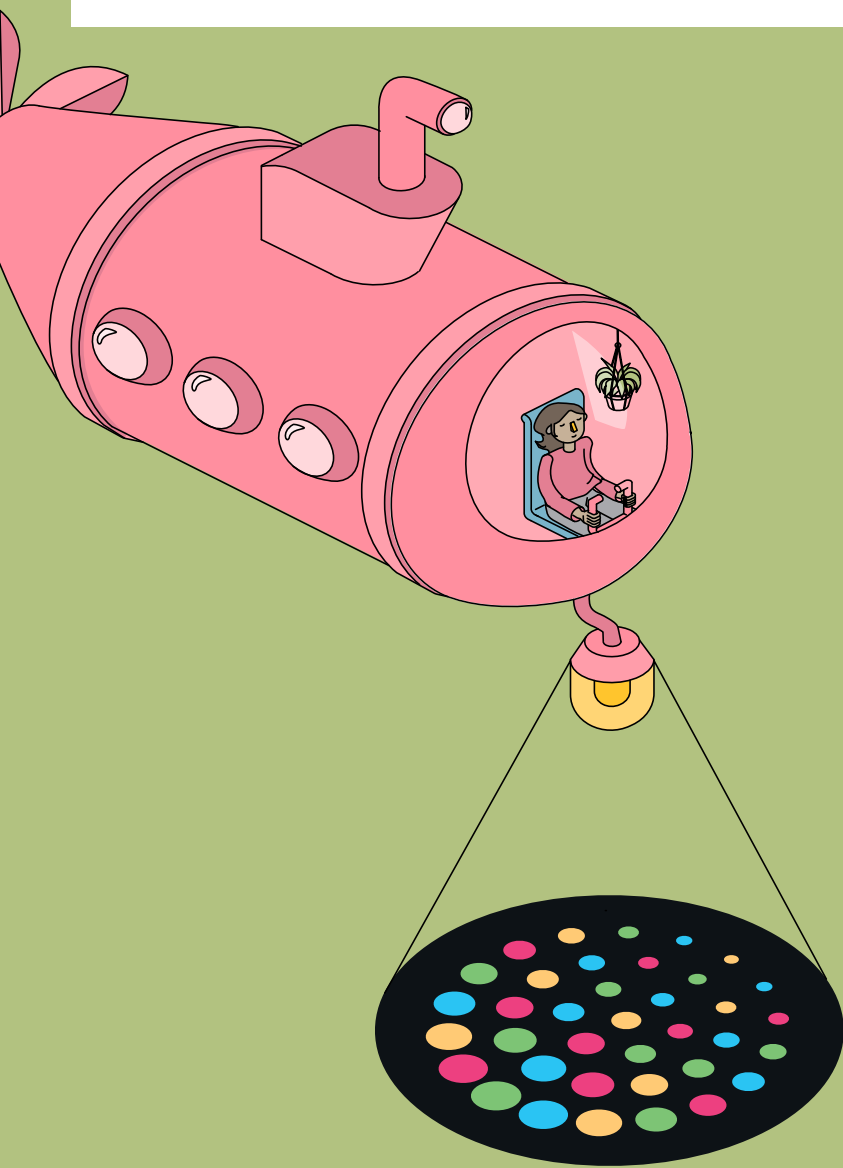


FluoroSpot

Tell the story of every cell



MABTECH

Your trusted source for immunoassays

At Mabtech, we make immune monitoring a little easier by providing reliable tools for ELISpot, FluoroSpot, ELISA, and multiplex assays. Our mission is to refine and simplify these technologies so you can focus on what matters most: your research.

It all began in the 80s with custom monoclonal antibodies. Since then, our portfolio has grown to include a wide range of antibodies, kits, and peptide pools, as well as instruments for analyzing ELISpot, FluoroSpot, and multiplex assays.

We're a Swedish company with headquarters in Nacka Strand, just east of central Stockholm, where everything from research and production to marketing, distribution, and sales happens under one roof. We also have a sales office in the USA and work with excellent distributors around the world.

Our FluoroSpot kits have set the standard worldwide to detect and characterize analyte-secreting cells. Each antibody pair is meticulously selected and validated with real samples, and these pairs are often used across our assay platforms, ensuring consistent performance. Choose the kits that work best for your workflows to detect cytokine-, chemokine-, or immunoglobulin-secreting cells in samples ranging from humans and non-human primates to mice and other veterinary species.



"From our antibodies to our instruments, every product is meticulously designed to ensure you can focus on what really matters: your research."

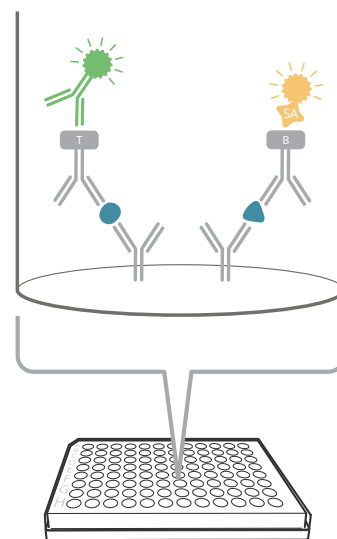


The FluoroSpot workflow

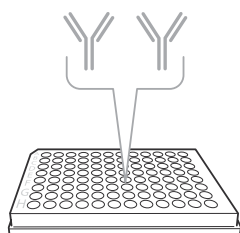
FluoroSpot is used to quantify analyte-secreting cells. This immunoassay combines the sensitivity of ELISpot with the capacity to study the secretion of several proteins simultaneously using fluorescence detection.

In FluoroSpot, a cell suspension is added to the wells of a plate coated with up to four analyte-specific capture antibodies. These antibodies immediately capture the analytes of interest secreted by the cells during the entire stimulation period. The cells are removed, and then tagged or biotinylated analyte-specific detection antibodies are added, followed by fluorophore-labeled secondary reagents.

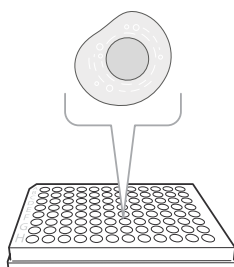
The plate is read using a FluoroSpot reader, where each fluorescent spot corresponds to a responding analyte-secreting cell. Multiple analytes can be detected at once, giving polyfunctional insights from your samples.



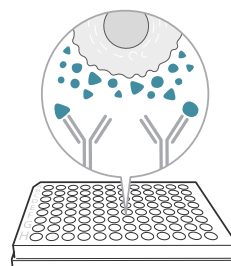
Step-by-step



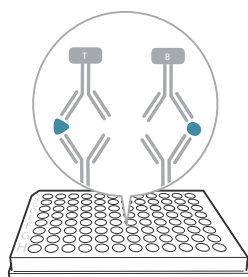
1. Coating
Several capture antibody clones are added to a plate with a low-fluorescent PVDF membrane.



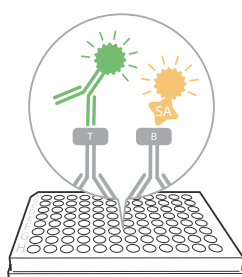
2. Cell incubation
Cells and specific stimuli are added to each well and allowed to incubate for optimal analyte secretion.



3. Protein capture
Secreted proteins bind to the capture antibodies around the activated cells.



4. Detection antibodies
The cells are removed, and a mixture of tagged and biotinylated detection antibodies is added.



5. Secondary detection
Addition of fluorophore-labeled secondary detection reagents enables fluorescent detection.



6. Analysis
The plate is analyzed in a FluoroSpot reader with separate filters for the different fluorophores.

FluoroSpot you can trust

Tell the story of every cell

FluoroSpot from Mabtech means quality through and through. You're getting more than a kit, you're getting years of assay innovation, optimized protocols, and the tools you need to generate data you can trust to drive your research and therapies forward.

- **Decades of expertise:** our first FluoroSpot kits were launched in 2008, and ever since, we've been advancing the technology, with trusted antibodies and kits used in hundreds of peer-reviewed studies and clinical trials.
- **Exceptional sensitivity:** detects even the rarest antigen-specific T and B cells, ensuring no important response goes undetected.
- **Polyfunctional assessment:** the multiplexing capacity of FluoroSpot allows for evaluating cells secreting more than one analyte, giving even more detailed immune insights.
- **Relative spot volume:** the patented RAWspot™ algorithm allows for measurement of the relative amount of analyte of interest secreted, adding more nuanced insights in your immune profiling.
- **In-house antibody development:** proprietary monoclonal antibodies give unmatched specificity and affinity, batch after batch.
- **Flexible formats:** from core reagents to pre-coated, ready-to-use kits, we offer solutions to match your workflow and research design.
- **Integrated reading solutions:** Mabtech IRIS™ 2 with the patented RAWspot™ algorithm provides the highest precision in spot detection, counting, and polyfunctional assessment available.

Analysis

The analysis of our FluoroSpot kits requires a FluoroSpot reader equipped with filters for the following wavelengths (excitation/emission):

- 380 nm/430 nm (LED380, DAPI)
- 490 nm/510 nm (LED490, FITC)
- 550 nm/570 nm (LED550, Cy3)
- 640 nm/660 nm (LED640, Cy5)

All of our FluoroSpot kits are easily read on our FluoroSpot reader, Mabtech IRIS™ 2. The user-friendly software and patented RAWspot™ algorithm is optimized for precise spot center detection, ensuring accurate multiplexing and also introduces the newest FluoroSpot data, relative spot volume (RSV).

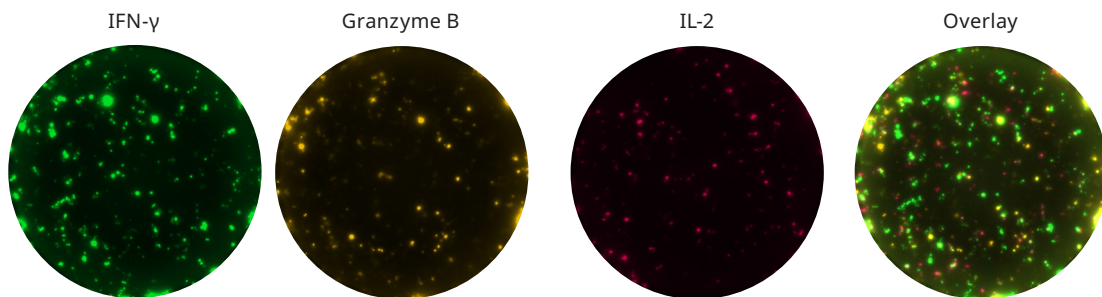


T cell applications

Simplifying polyfunctional T cell analysis

FluoroSpot is commonly used to investigate antigen-specific immune responses and to discriminate between subsets of activated T cells. This is applied in studies of infectious diseases, cancer, allergies, and autoimmune diseases. In vaccine research, IFN- γ /IL-2/TNF- α FluoroSpot

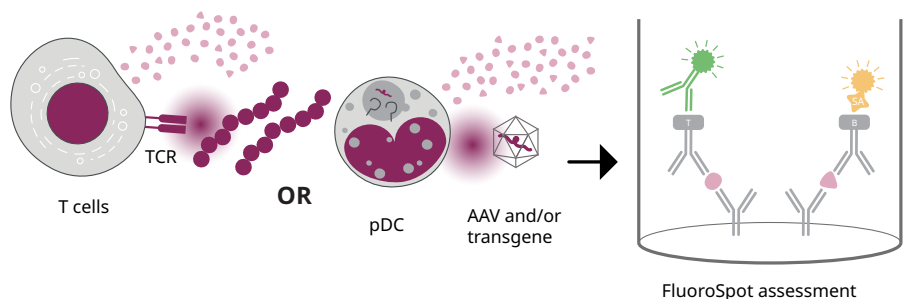
is heavily used to define vaccine efficacy by measuring the capacity to elicit potent T cell responses. IFN- γ /IL-2/Granzyme B FluoroSpot is another great combination to assess both Th1 and cytotoxic T cells in the same well, saving on precious samples.



FluoroSpot analysis with three images from the same well and a corresponding overlay of the three filters.

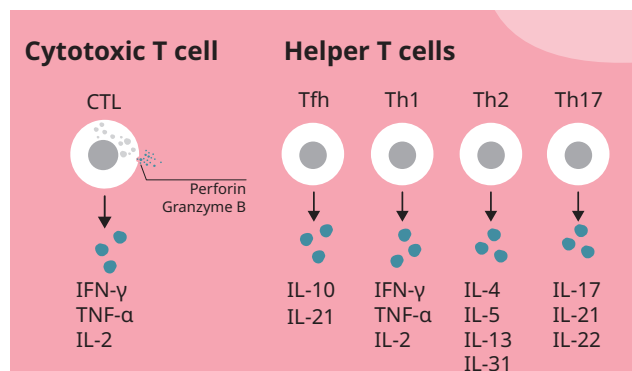
Immunotherapy

FluoroSpot is a powerful assay in CAR-T, TIL, and gene therapy development, giving clear insight into cytokine release such as IFN- γ , Granzyme B, and TNF- α from engineered T cells or virally transduced cells. These assays align with FDA recommendations for immunotherapy potency testing.



Vaccines

In vaccine development, FluoroSpot enables researchers to screen immune memory, identify vaccine target epitopes, evaluate novel adjuvants, and assess response durability by detecting and characterizing specific T cell subsets.

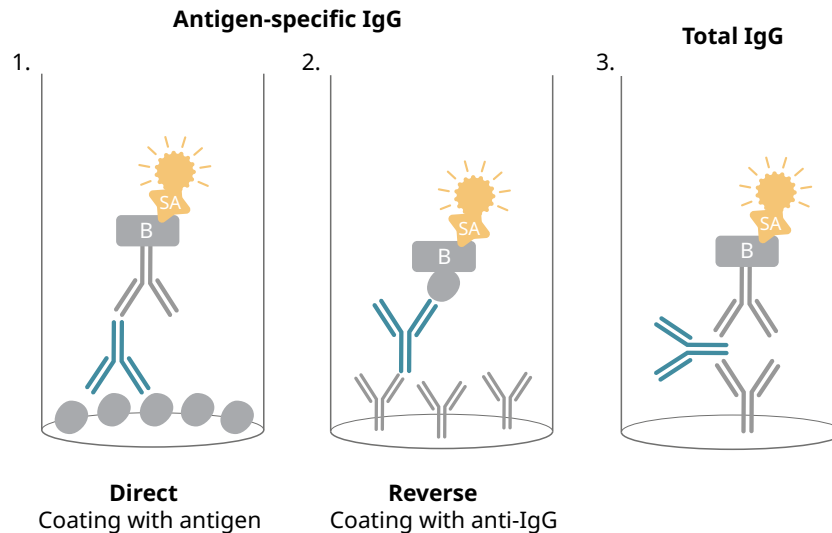


B cell applications

One assay, multiple insights

The B cell FluoroSpot assay is one of few assays that can measure immunoglobulins directly upon secretion. One can assess multiple **total** immunoglobulin secretion by antibody-secreting cells (ASCs) or memory B cells, as well as multiple

antigen-specific B cell responses from both cell types, using the antigens of interest as a capture or detection reagent.



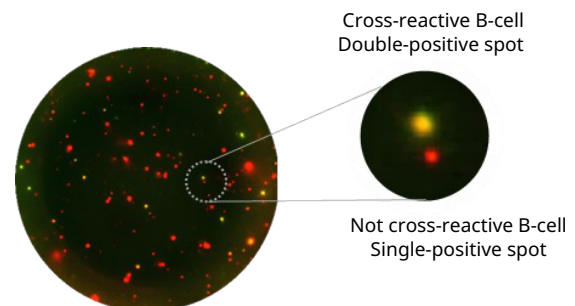
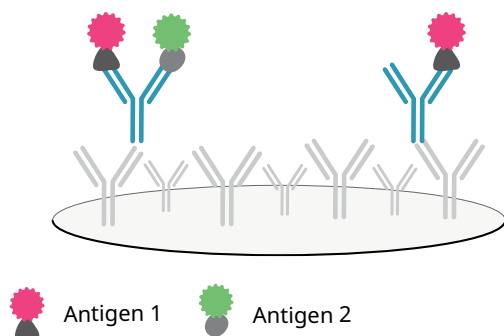
Evaluate cross-reactive B cells

B cell FluoroSpot can be used to answer several research questions in infection and vaccine research. One can assess multiple immunoglobulin isotypes, subclasses, and even antigens! By using reverse B cell FluoroSpot,

multiple antigens can be used to detect single and cross-reactive B cells. This adds new, added layers to your B cell research and can help guide new vaccine development and assessment.

Cross-reactive B-cell
Double-positive spot

Not cross-reactive B-cell
Single-positive spot



Which kit format to choose?

Flexible, validated, or down a charted path – it's your choice. With **FluoroSpot Flex** you can select analytes and create over 100,000 possible combinations. **FluoroSpot Plus** kits have validated analyte combinations and pre-coated plates to save time and minimize variability. Finally, **FluoroSpot Path** kits include specific antigens and are designed to study immune responses to a specific pathogen.



		Recommended	
	FluoroSpot Flex <i>Build your own kit</i>	FluoroSpot Plus <i>Reproducible</i>	FluoroSpot Path <i>Antigen-specific</i>
FluoroSpot plate	Non-coated	Pre-coated	Pre-coated
Capture mAb(s)	✓	Coated on plate	Coated on plate
Detection mAb(s)	✓	✓	✓
Secondary detection reagents conjugated to fluorophores	✓	✓	✓
Anti-CD3 mAb (positive control)*	–	✓	✓
Anti-CD28 mAb (for co-stimulation)*	✓	✓	✓
R848+IL-2 (polyclonal activators)**	✓	✓	✓
FluoroSpot enhancer	✓	✓	✓
Peptide pool or antigen	–	–	✓
Size	1 and 10 plates	2 and 10 plates	1 plate

*Included for certain cytokine analytes

**Included for certain immunoglobulin analytes

Popular FluoroSpot products

Human	Mouse	NHP
IFN- γ	IFN- γ	IFN- γ
IL-2	IL-2	IL-2
IL-4	IL-4	IL-4
IL-5	IL-5	IL-5
TNF- α	IL-6	TNF- α
Granzyme B	TNF- α	IL-10
IL-10	IL-10	Perforin
Perforin	IL-17A	IgG
IgG	IgG	IgA
IgA	IgA	IgM
IgM	IgM	

Pair these analyte combinations with one of our popular validated peptide pools!



Peptide pools!

CEFRAS Global (CD4 and CD8)
SARS-CoV-2 (S1)
SARS-CoV-2 Omicron BA.1 (S1)
Vaccinia (CD8)
BKV (CD4 and CD8)
EBV (CD4 and CD8)
CMV (CD4 and CD8)
Tuberculosis

We also have FluoroSpot kits for

Cow Rat
Pig Goat
Sheep Chicken



Customer voices

Confidence in every well

We know your samples are precious and your results must be trusted. That's why we pair proven assay technology with direct access to experienced support scientists. If something doesn't go as planned, we'll work with you to get it right. Because our goal isn't just an assay that runs, it's an assay that delivers trustworthy results, every single time.

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We have used Mabtech FluoroSpot antibodies and reagents for several years. The high quality and standard and competitive price will keep us hooked for years to come.



Cecilia Lindestam Arlehamn
Infection Immunology
Statens Serum Institut, Denmark

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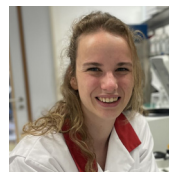
It was very beneficial to be able to do four analytes simultaneously using a 4-color FluoroSpot assay.



Sofie Pattyn
ImmunXperts
Belgium, Spain

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Mabtech is extremely approachable, and give great assistance with troubleshooting when I'm encountering issues.



Lara Kelchtermans
Virology, Antiviral Drug & Vaccine
Research Group
KU Leuven, Belgium



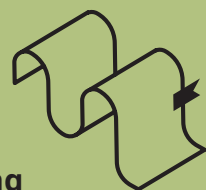
CERTIFIED
ISO 9001
Quality management systems



CERTIFIED
ISO 13485
Medical devices
Quality management systems



250+



publications using
our FluoroSpot products

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. Please visit www.mabtech.com or scan the QR to see all of our products.



Selected references

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

Janetzki et al., *Stepping up ELISpot: Multi-Level Analysis in FluoroSpot Assays*, Cells. 2014

Jahnmatz et al., *Memory B-Cell Responses Against Merozoite Antigens After Acute Plasmodium falciparum Malaria, Assessed Over One Year Using a Novel Multiplexed FluoroSpot Assay*, Front Immunol. 2020

Balasubramanian et al., *Epitope mapping using immuno-peptidomics reveals novel immunodominant CD8 T cell epitopes of the AAV9 capsid*, Front. Immunol. 2025

Bronge et al., *Myelin oligodendrocyte glycoprotein revisited-sensitive detection of MOG-specific T-cells in multiple sclerosis*, Journal of autoimmunity 2019

Mateus et al., *Selective and cross-reactive SARS-CoV-2 T cell epitopes in unexposed humans*, Science 2020

Wainberg et al., *Lymph node-targeted, mKRAS-specific amphiphile vaccine in pancreatic and colorectal cancer: phase 1 AMPLIFY-201 trial final results*, Nat Med. 2025



MABTECH

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.