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Multiplex made effortless

the technology behind **Mabtech EYRA™**

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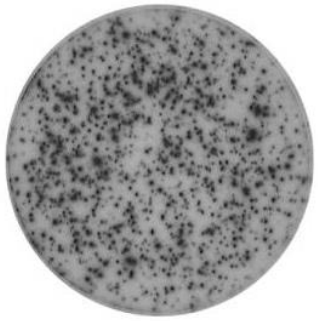
Our assays

We develop optimal monoclonal antibody pairs for sandwich assays

ELISpot

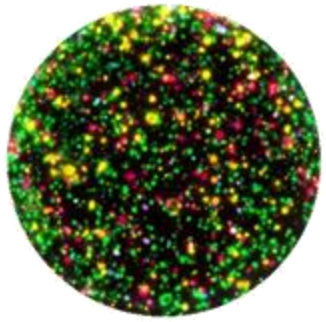
IFN-γ



Each spot is the footprint of a responding cell

FluoroSpot

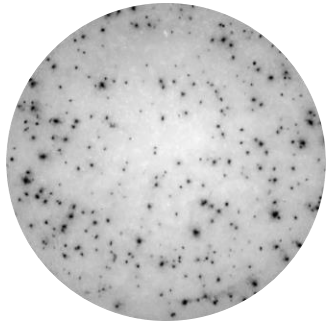
IL-22, IFN-γ, IL-5, IL-17A



Multiplexed ELISpot

FociSpot

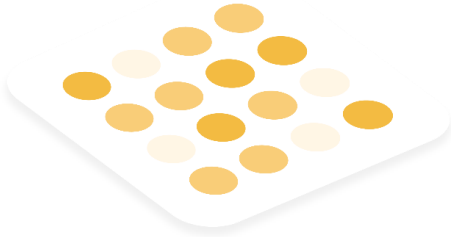
Influenza foci



Virus-infected cells

ELISA

IFN-γ



Analyte concentration

EYRAplex

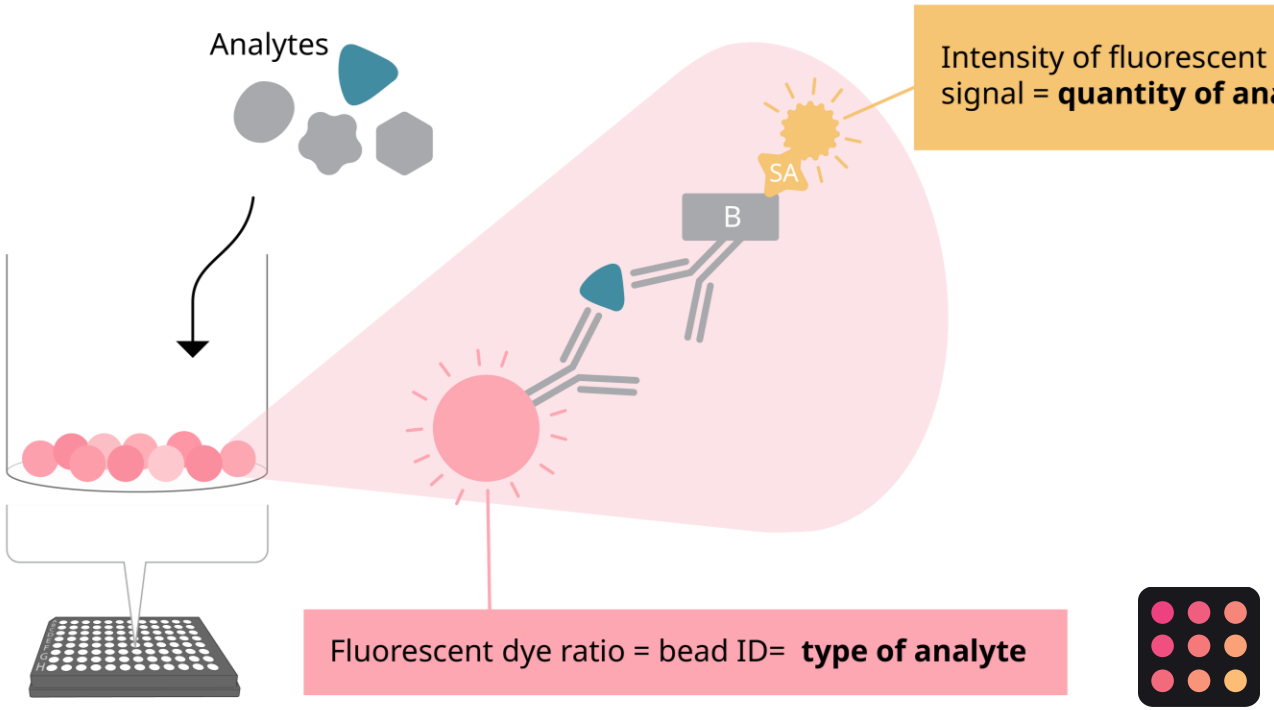
29+ analytes

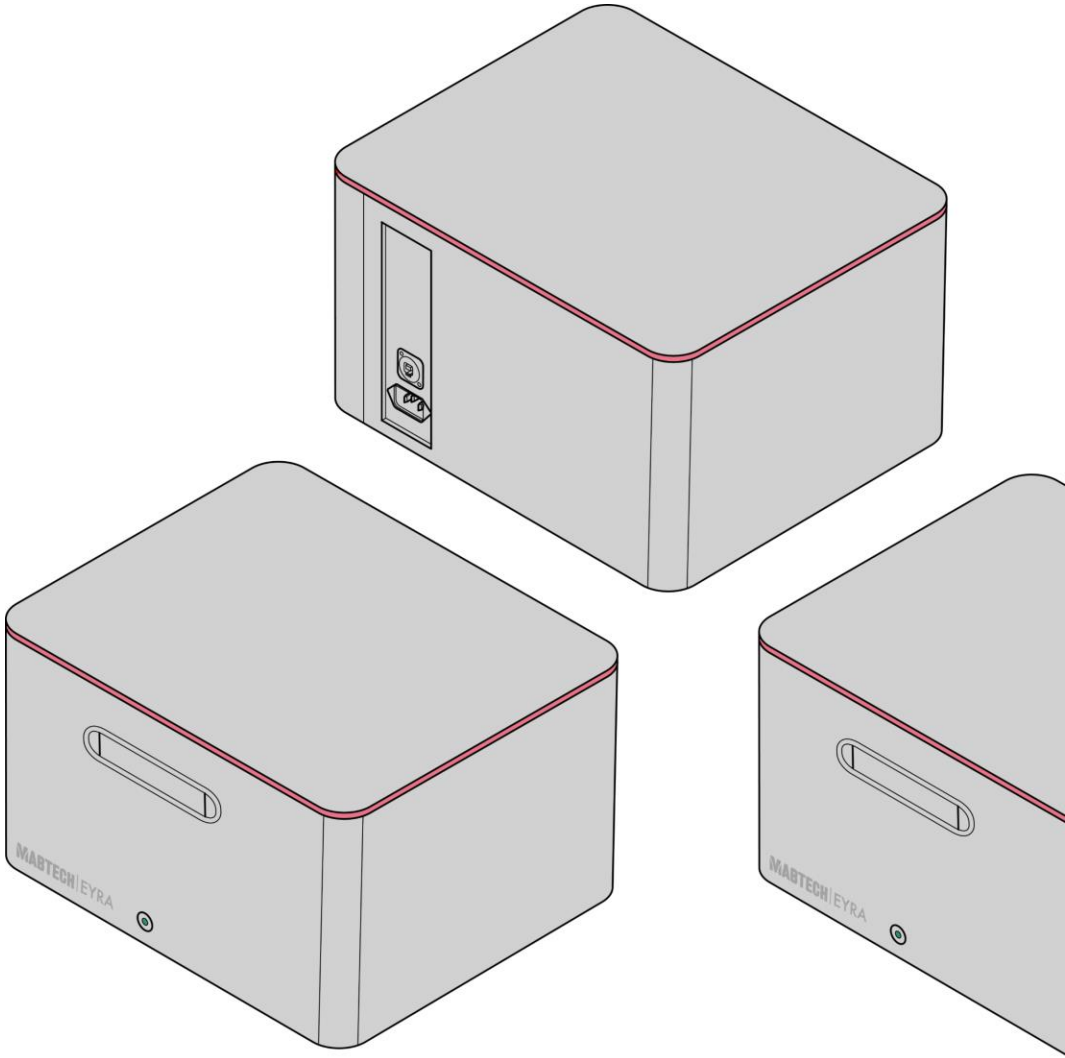
Bead-based multiplex

IRIS 2 | ELISpot, FluoroSpot, FociSpot
ASTOR 2 | ELISpot

The Mabtech multiplex solution

A new bead-based multiplex platform – assay and instrument



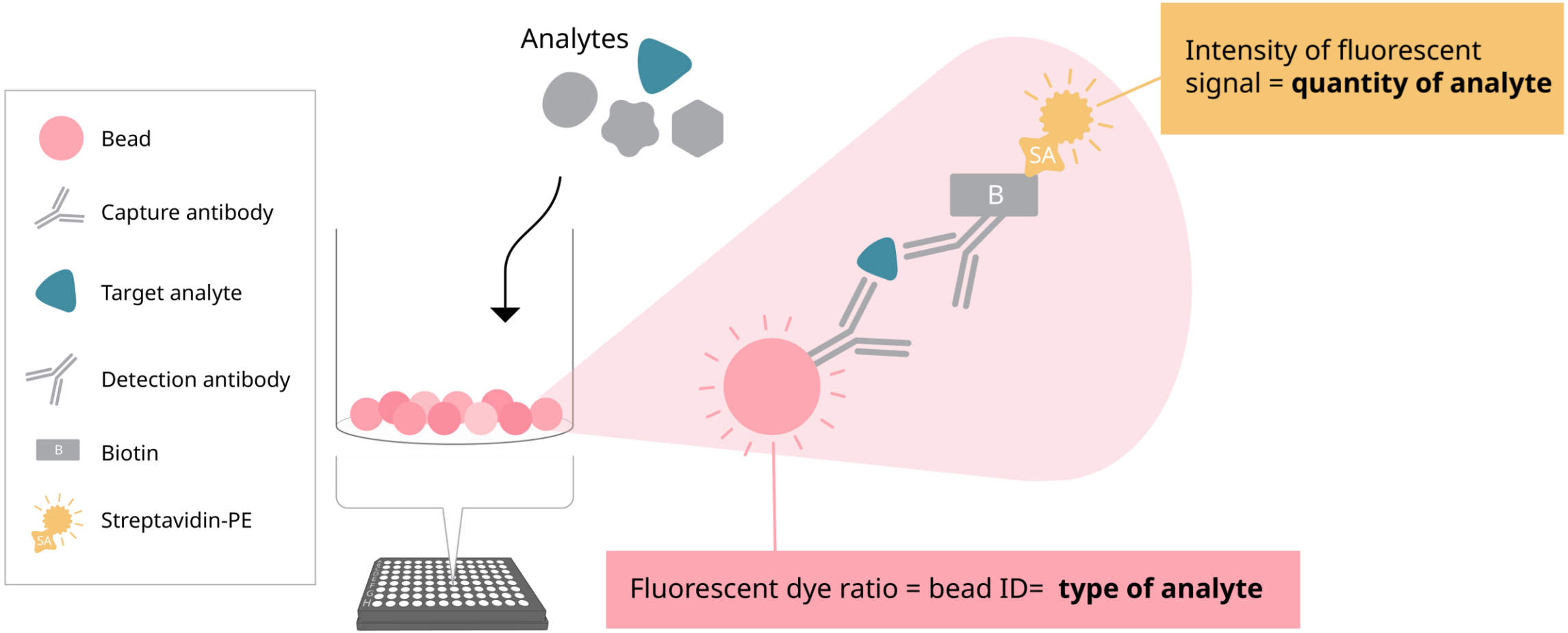


EYRAplex

Mabtech EYRA™

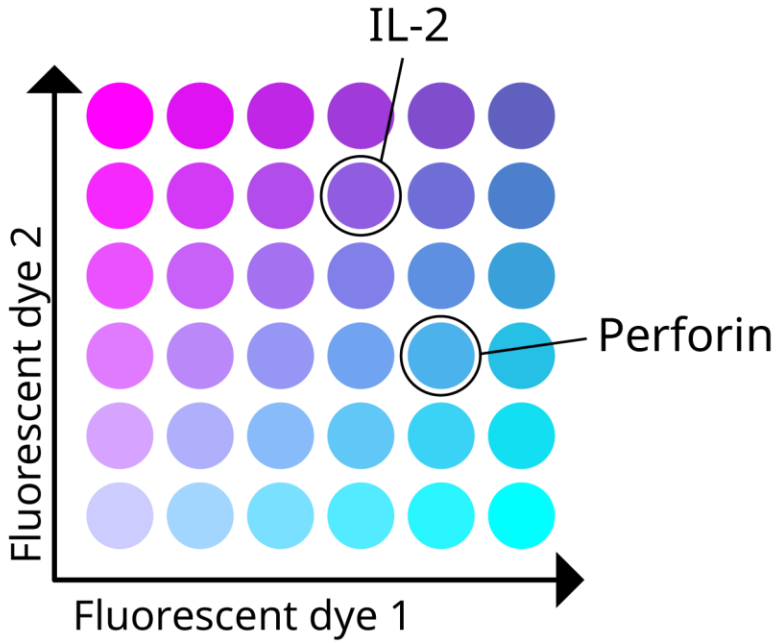
The assay – EYRAplex

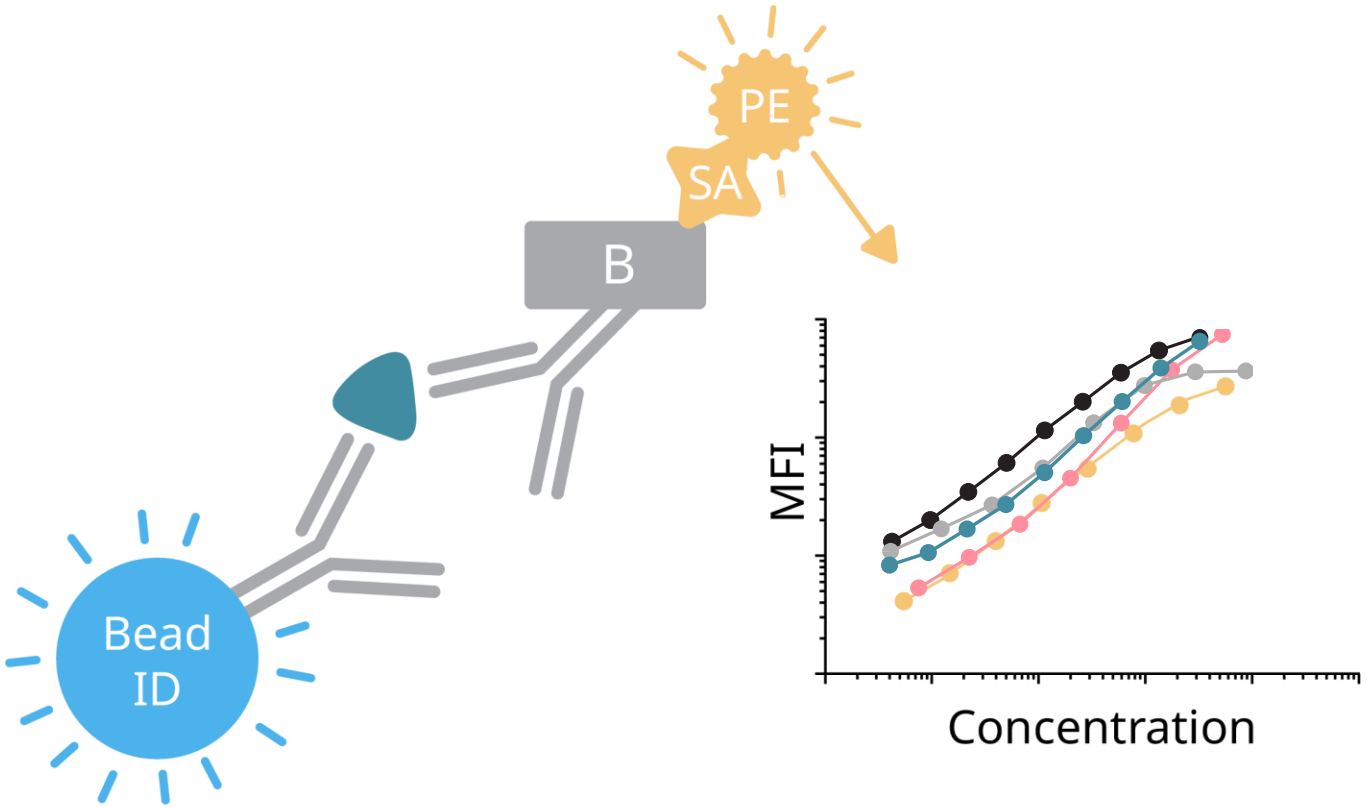
Magnetic beads with optimized antibody pairs and protein standards



The assay – EYRAplex

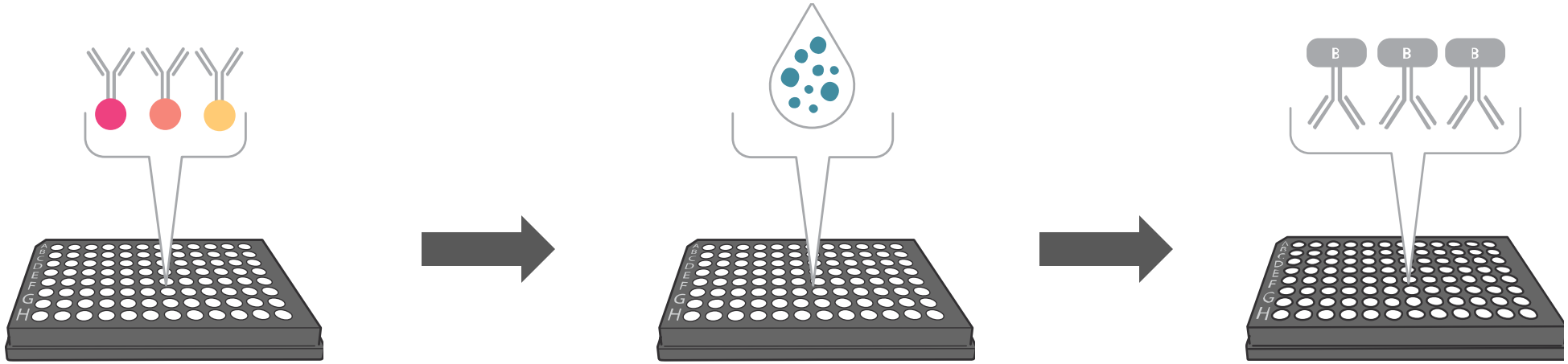
30+ distinct bead IDs and corresponding PE signals





EYRAplex step-by-step

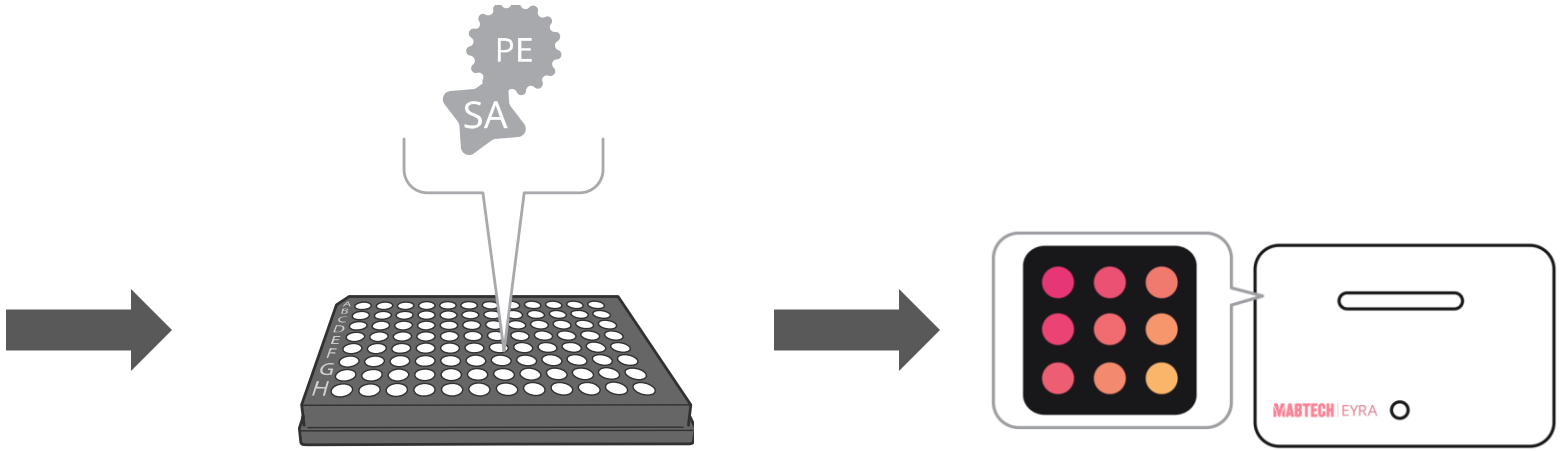
Anyone can multiplex



1. Add capture bead mix

2. Add samples + standards

3. Add Detection mAb mix



4. Add SA-PE

5. Data acquisition

The assay – EYRAplex

The mAb pairs you trust, now in multiplex

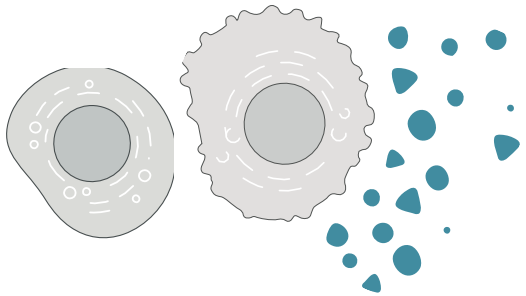
Sample type and volume:
25 µl
serum, plasma, cell supernatant

- Kit includes:
  - Standard mixes
  - Capture bead mixes
  - Detection mAb mixes
  - Streptavidin-PE
  - Assay buffer, diluents, wash buffers
  - Black 96-well plate with lid and adhesive covers

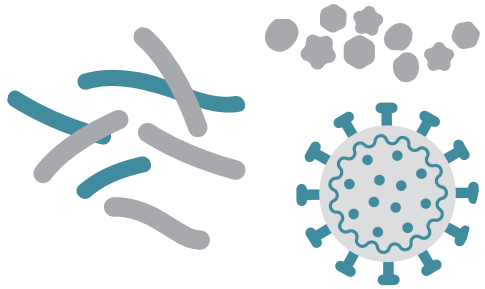
Designed for **EYRA** and works with most flow cytometers

The EYRAplex panels

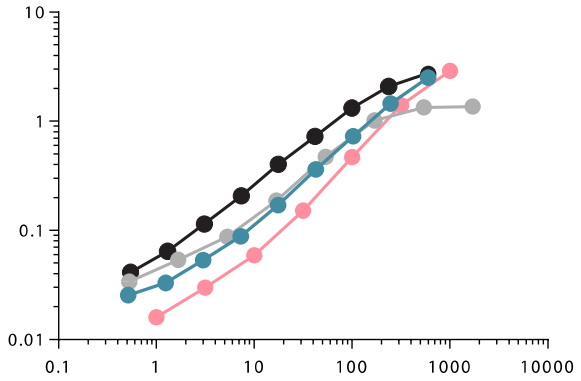
A broad range of inflammatory and immune monitoring panels



- Th1/Th2 panels: 7-, 10-, and 18-plex
- Th17/Th22 panel: 13-plex
- Proinflammatory panels: 8- and 12-plex
- T reg panel: 12-plex
- *In vitro* cytokine release panel: 8- and 15-plex
- Chemokine panel: 6-plex
- Cytokine panel: 29-plex

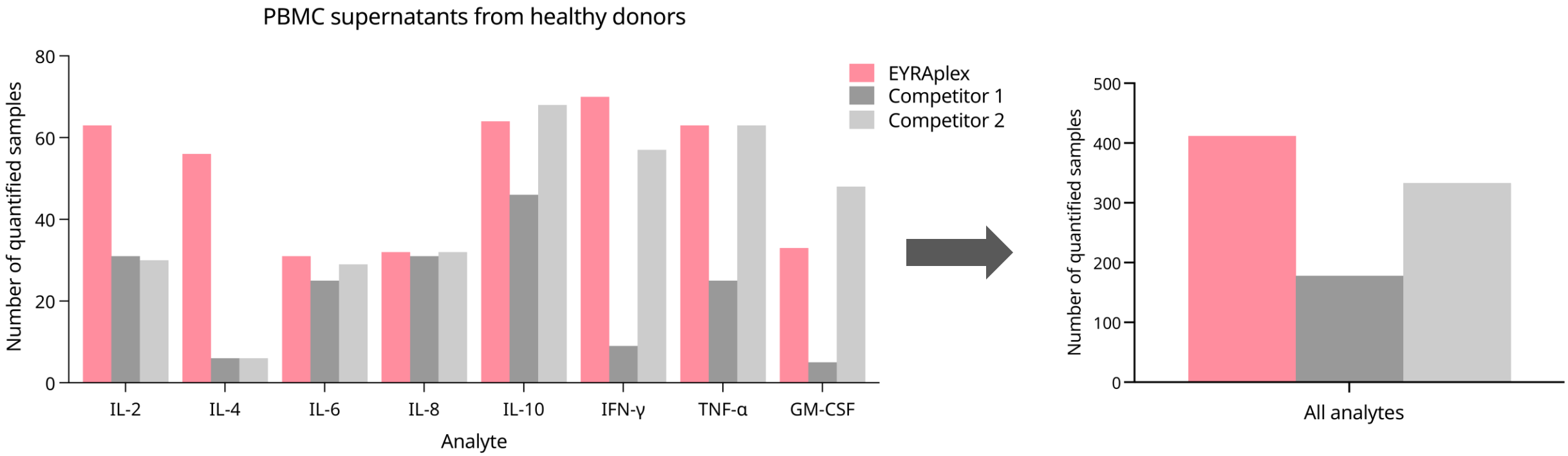


- Cytokine storm: 20-plex
- Viral panel: 13- and 18-plex



How does EYRAplex measure up?

Highly sensitive mAb pairs make highly sensitive assays

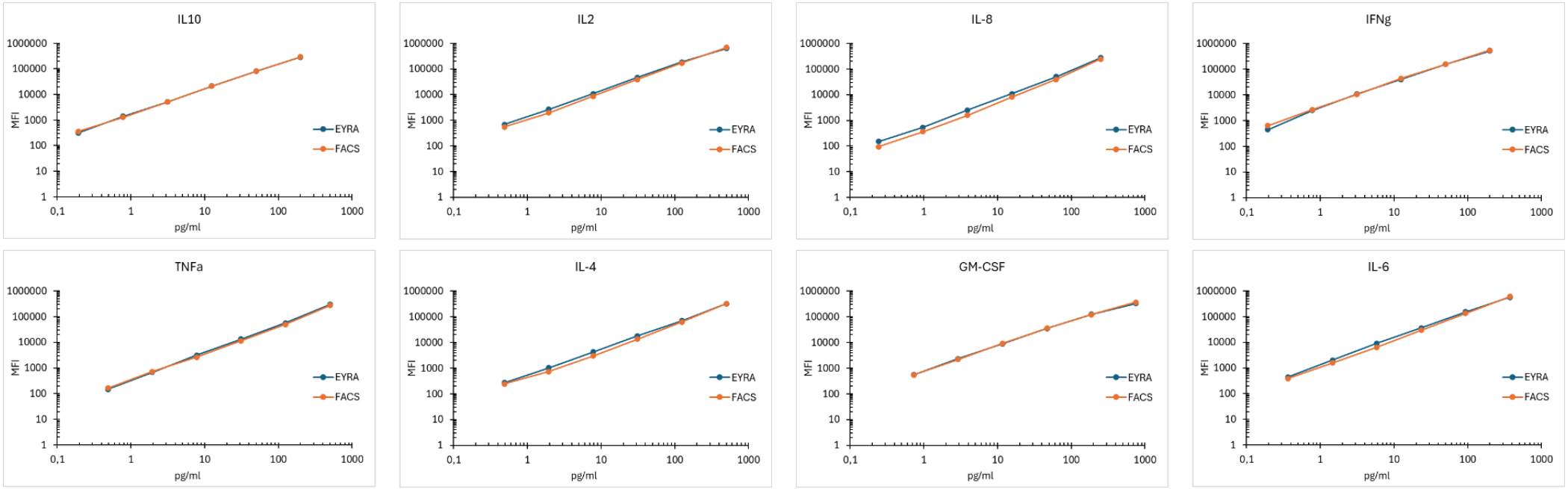


EYRAplex on par and often more sensitive than competitors

EYRAplex assays are validated on EYRA and flow cytometry

Sensitivity and accuracy no matter what

- For the smoothest and fastest data acquisition, we recommend **EYRA**
  - **Insert plate, press read, and enjoy your data**
- EYRAplex kits perform just as well with most flow cytometers
  - Red and yellow-green/blue lasers needed



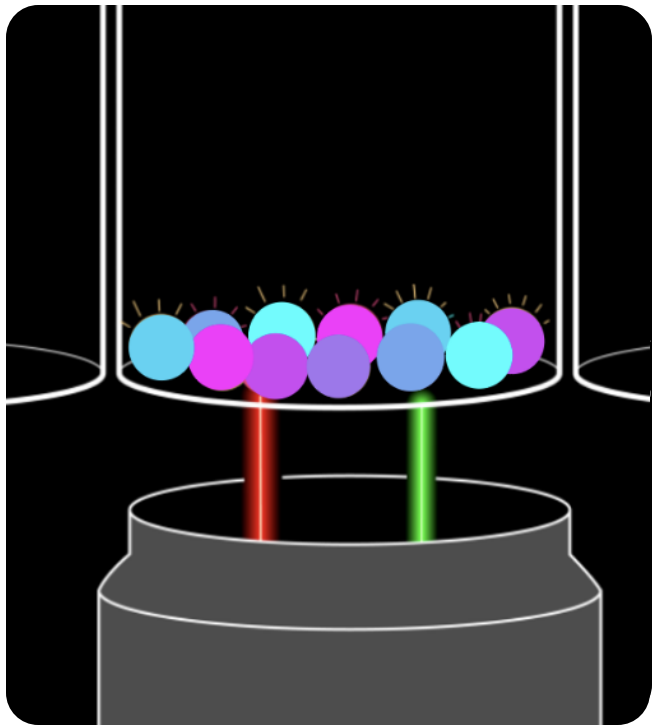
The instrument – Mabtech EYRA

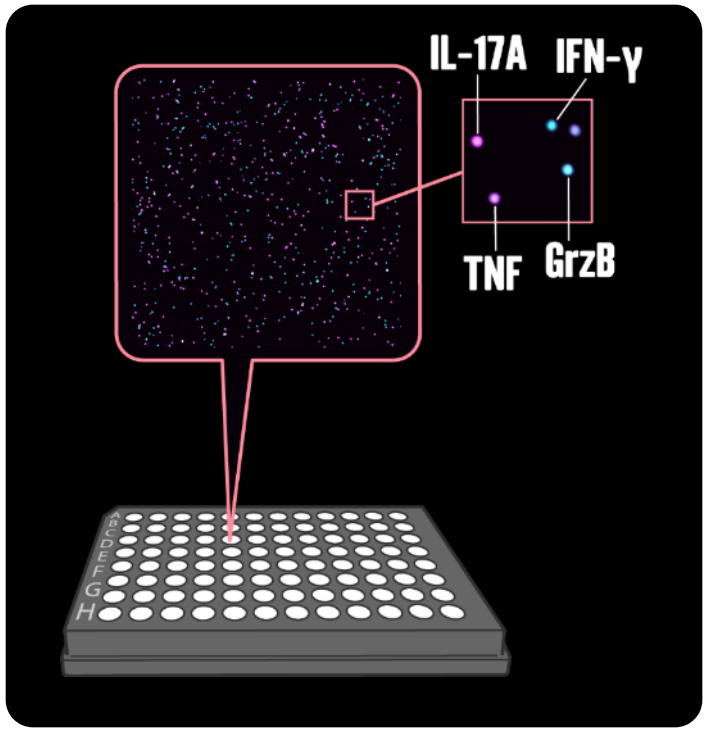
Multiplex made effortless

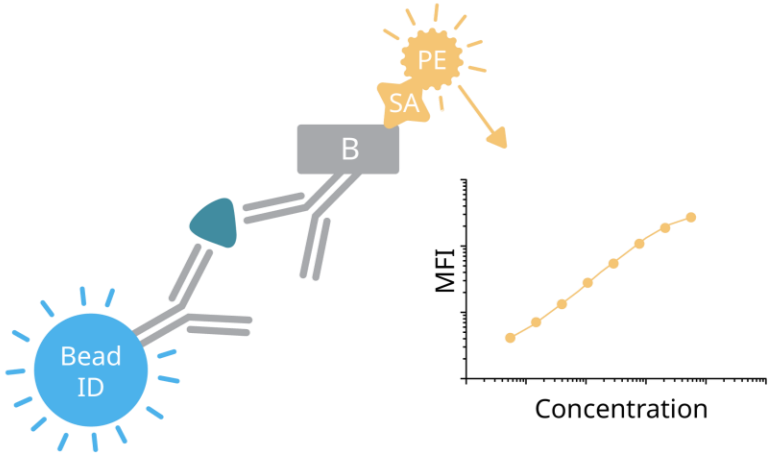
The instrument – Mabtech EYRA

New, simple analysis of bead-based multiplex assays

- **Confocal microscopy**-based acquisition
- Bead complexes are imaged from below after excitation with the laser system
- RAWsphere™ algorithm ensures highly accurate bead identification and corresponding PE signal



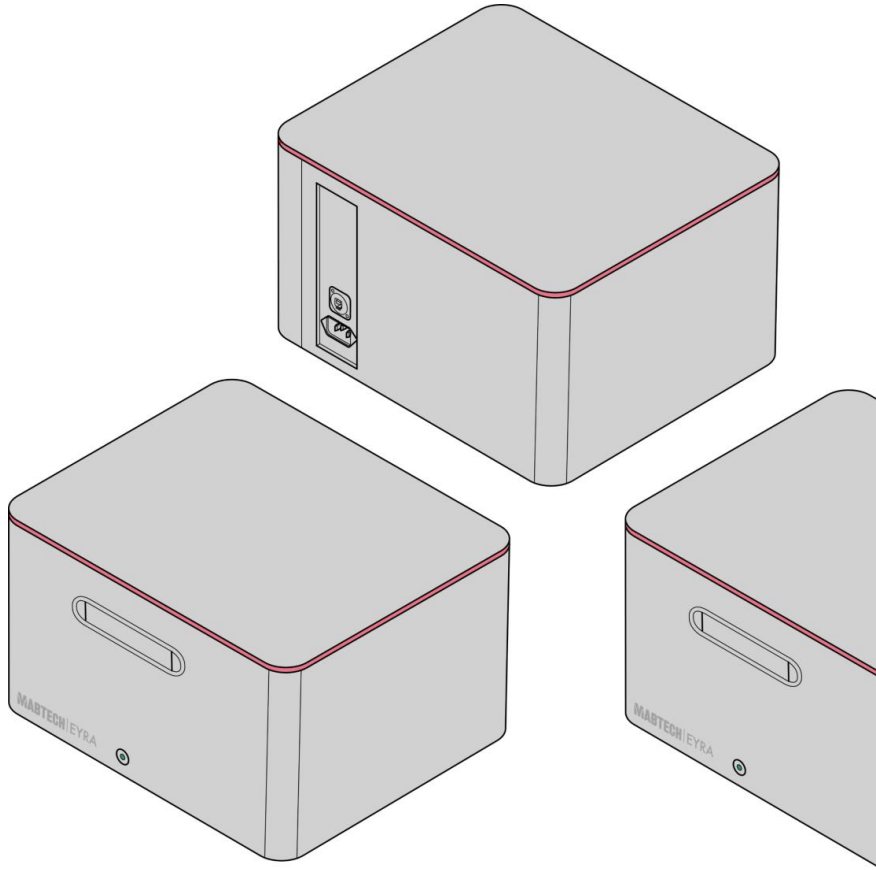




Mabtech EYRA: a fluidics-free experience

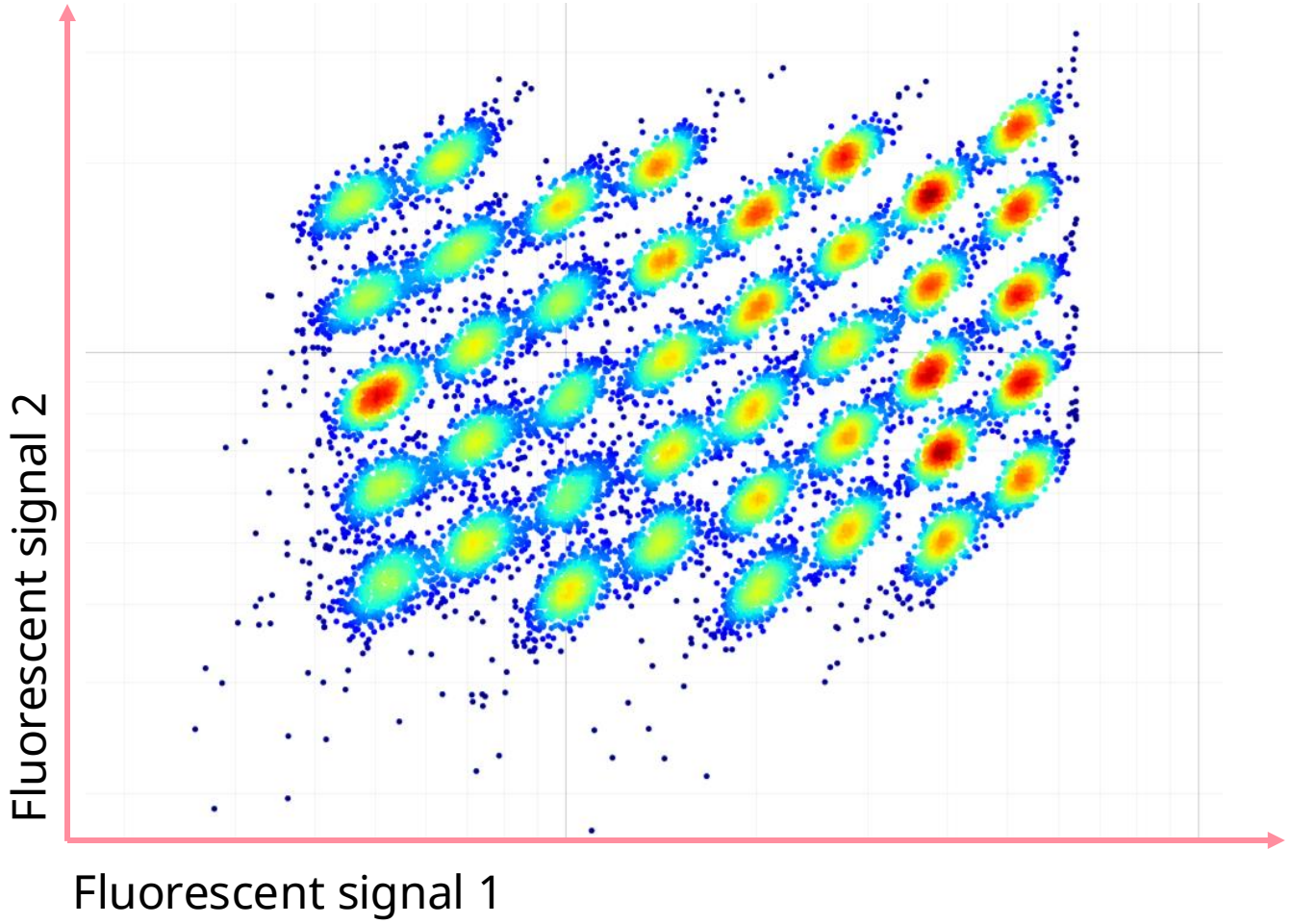
No headaches related to the maintenance of a flow-based system

- Reading EYRAplex on EYRA means:
  - Sample stays in the well; **no-contact analysis**
  - **Worry-free experience**, no babysitting
  - No clogging, no sheath fluid or waste
  - **Plug-and-play** experience
  - True walk away acquisition, **~15 min read time**
  - **No start-up or shutdown procedures**



Growing plex numbers with Mabtech EYRA

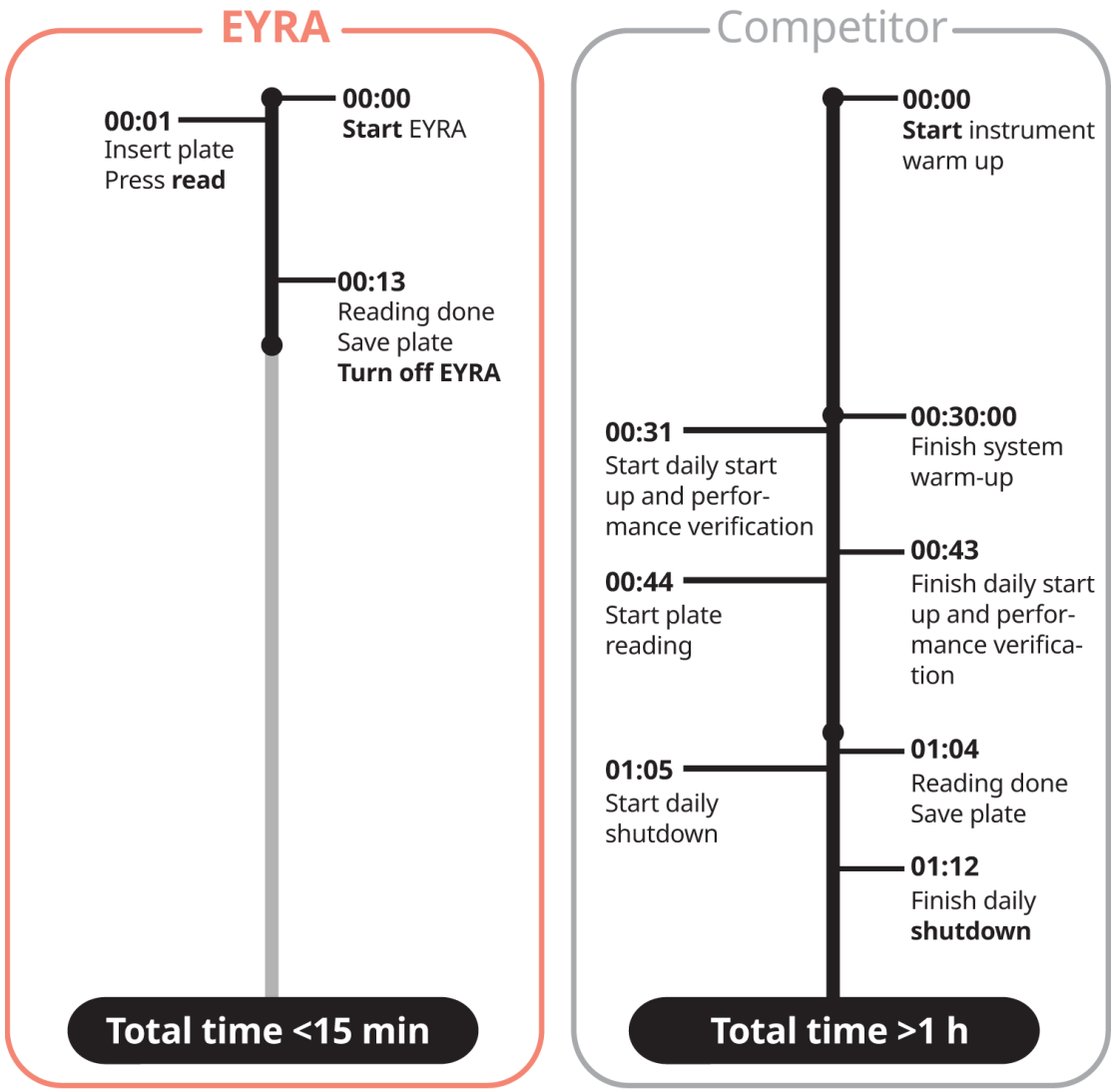
40 bead populations and counting



- Map of 40 bead populations acquired on Mabtech EYRA
- Add assay-specific gates in Opal, linking bead populations to the associated analyte

Mabtech EYRA will save you time

Get your plates read before others even begin!



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MABTECH EYRA - A SINGLE-PURPOSE CONFOCAL MICROSCOPE

- Own mechanics: X/Y and Z control for microscope motors
- Own electronics optimized for ultra-fast data-acquisition chain
- Laser-scanning technology
- Own high-speed FPGA electronics
- Patent-pending µm-accuracy autofocus technology

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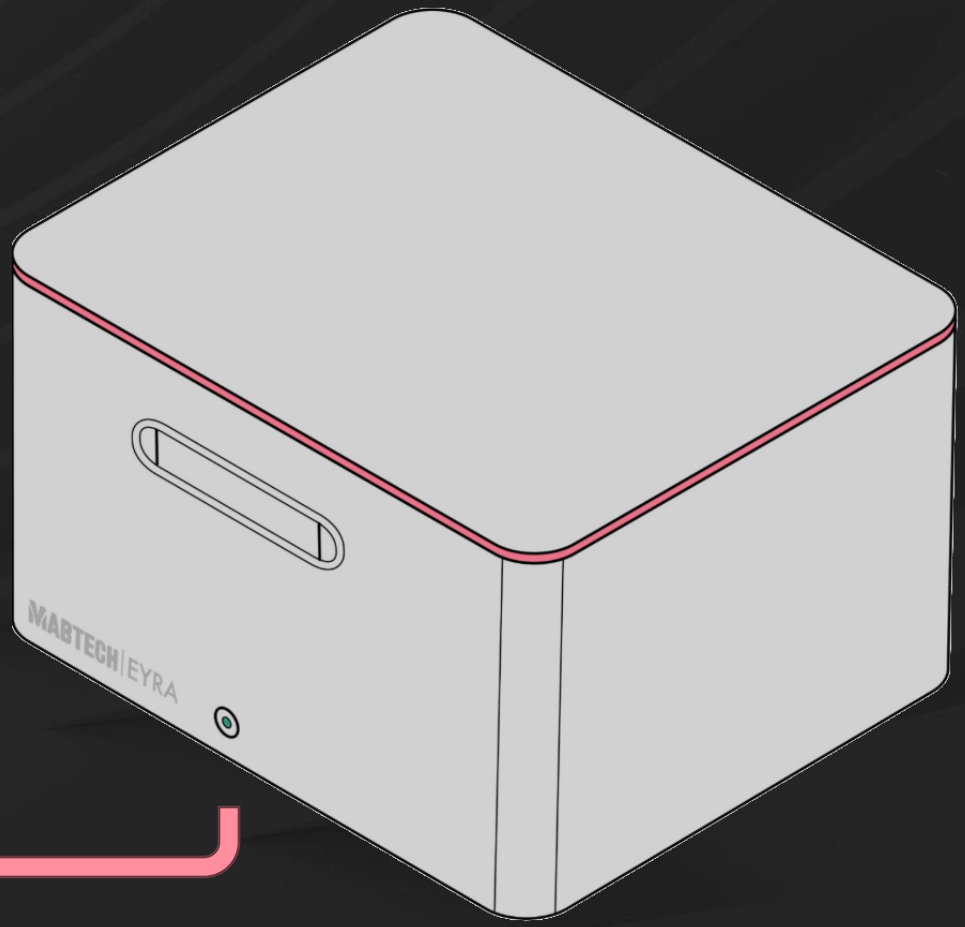
RAWsphere™ - MATHEMATICAL MODELING YIELDS ROBUST DATA

- Patent-pending RAWsphere™ algorithm
- Mabtech beads for ultra-precise data
- Mathematical modeling of bead fluorescence
- Inverse problems: Mathematical data extraction



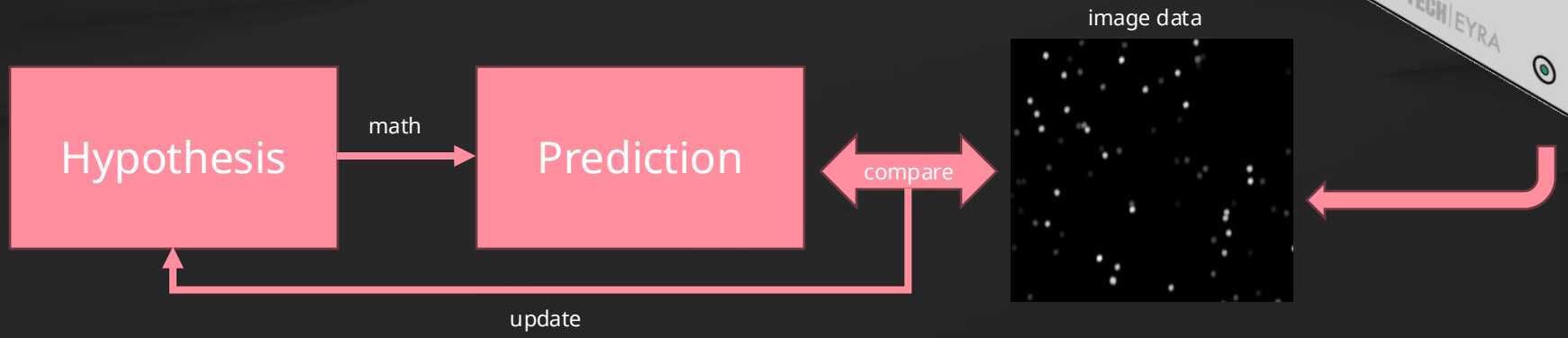


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Image data

Hypothesis after 2 iterations

Image data

Hypothesis after 4 iterations

Image data

Hypothesis after 8 iterations

Image data

Hypothesis after 16 iterations

Image data

Hypothesis after 32 iterations

Image data

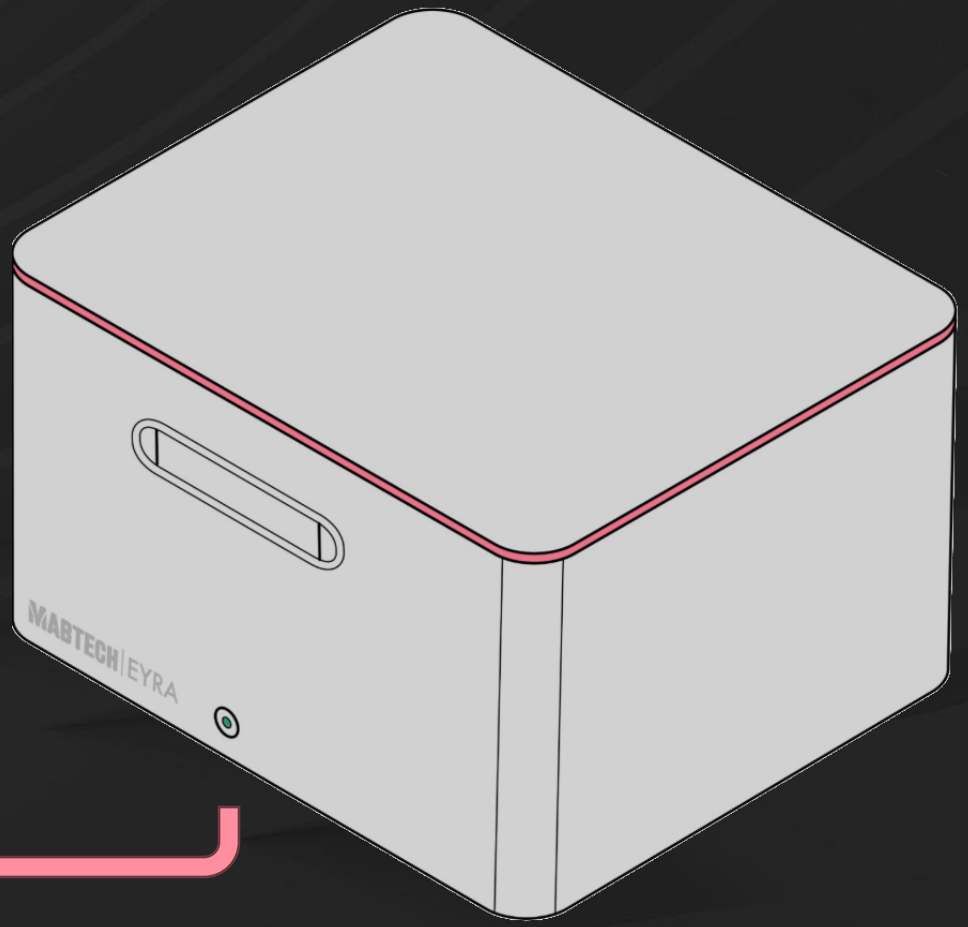
Hypothesis after 64 iterations

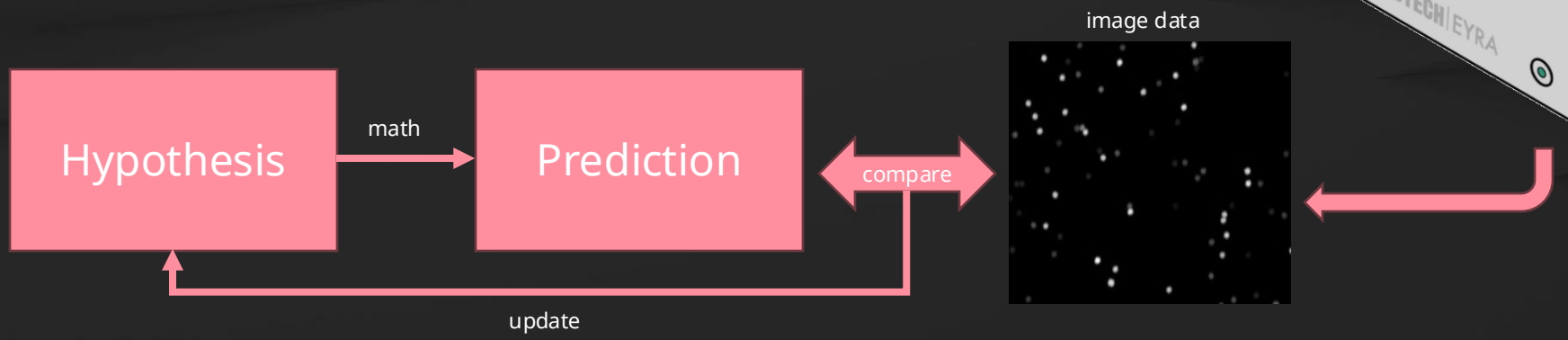
Image data

Hypothesis after 100 iterations

RAWsphere™ - MATHEMATICAL MODELING YIELDS ROBUST DATA

- Inspired by the successful RAWspot™ algorithm for ELISpot and FluroSpot
- Resolves bead clusters effortlessly
- Impervious to bright-to-dim bead interactions
- Conceptualized in collaboration with Prof. Joakim Jaldén





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Benefits of EYRAplex kits

	EYRAplex	Competitor
Magnetic bead-based assay	✓	✓
Mabtech's trusted mAb pairs	✓	✗
Goodbye heterophilic interference	✓	✗
Compatible with **EYRA** and most flow cytometers	✓	✗

Benefits of Mabtech EYRA

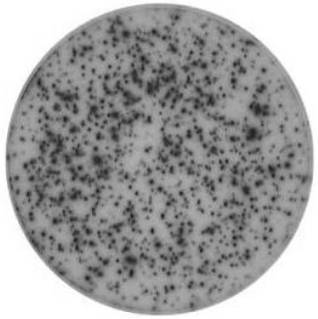
	EYRA	Competitor
Detect >30 analytes	✓	✓
Fluidics-free: no sheath fluid, no waste	✓	✗
Start, read and shutdown in <20 minutes	✓	✗
Export multiple plates into one Excel file	✓	✗
Worry-free coffee during readout	✓	✗

Assays & instruments designed for you

Your trusted source for accurate and sensitive immunoassays

ELISpot

IFN-γ



Each spot is the footprint of a responding cell

FluoroSpot

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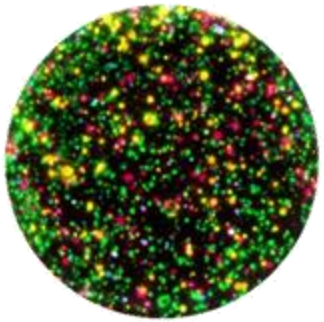
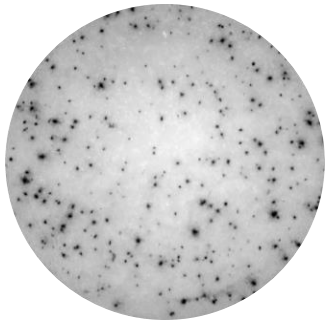


Multiplexed ELISpot

FociSpot

Influenza foci

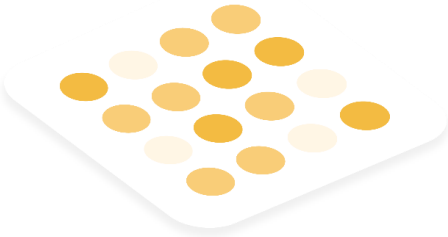


Virus-infected cells

IRIS 2
ASTOR 2

ELISA

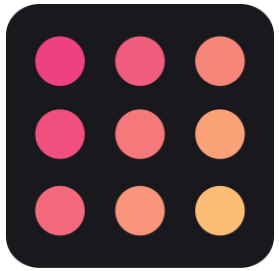
IFN-γ



Analyte concentration

EYRAplex

30+ analytes



Bead-based multiplex

EYRA

Mabtech EYRA

Multiplex made effortless

Q&A