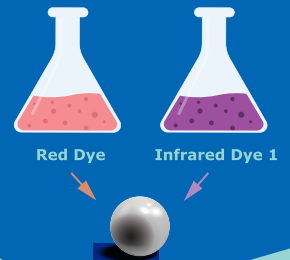


MILLIPLEX® Multiplex for Luminex® Immunoassays

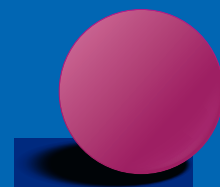
Luminex® xMAP® technology combines advanced fluidics, optics, and digital signal processing with proprietary microsphere technology to deliver both high density and high throughput multiplexed assay capabilities at the same time.

- Luminex® uses proprietary techniques to internally color-code microspheres with multiple fluorescent dyes, magnetic bead coated with a specific capture antibody.
- A combination of 2 or 3 dyes enables Luminex to achieve up to 500 different bead colors in a single well.
- After the target protein from a test sample is captured by the bead, a biotinylated detection antibody is introduced.
- The reaction mixture is then incubated with Streptavidin-PE to complete the reaction.

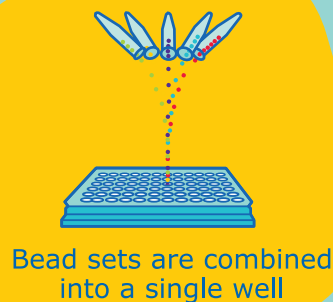
Luminex internally color-codes microspheres with precise concentrations of fluorescent dyes



"Spectral Address"
Bead set is specifically identifiable based on dye content



Each bead set has a unique ratio of dyes



Bead sets are combined into a single well



Complete the reaction on the surface of each microsphere



Up to 500 distinctly colored bead sets



Merck Ltd. Thailand

19th Floor, Emporium Tower,
622 Sukhumvit Road, Klongton,
Klongtoey, Bangkok 10110
Tel. : +66 (0) 2667 8000
Fax : +66 (0) 2667 8338
Customer Care Center : +66 (0) 2667 8333
www.mercklifescienceth.com
Facebook : Merck Life Science Thailand
Line Official : Merck Thailand

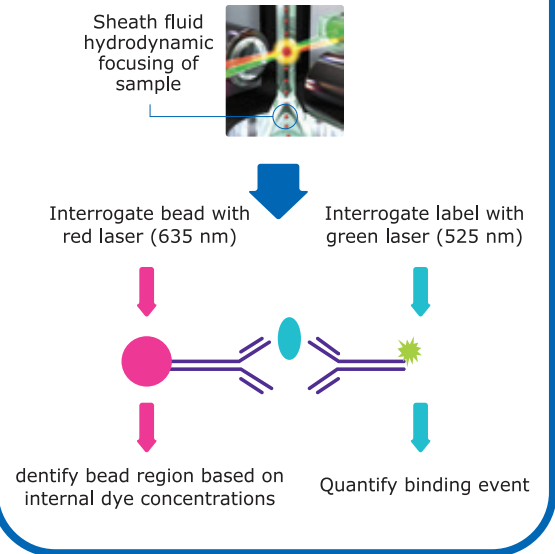
xMAP® TECHNOLOGY

xMAP® technology makes use of labeled beads to detect multiple analytes from the same sample. Combined with **MILLIPLEX® assays**, Luminex® instruments provide fast, reproducible, and reliable results which can be analyzed on **Belysa® software**.

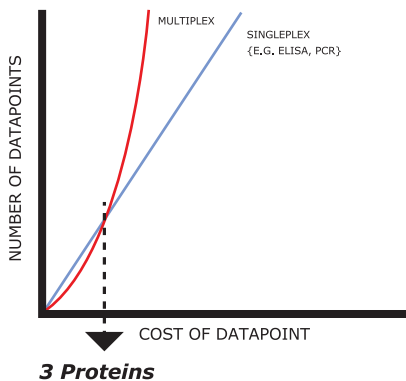
Advantages of xMAP® Technology Compared to Other traditional Immunoassay Methods

- Speed/High throughput
- Accuracy
- Reproducibility
- Low sample volume
- Magnetic bead-based format

Flow cytometry-based analysis (xMAP® INTELLIFLEX, Luminex® 200™, and FLEXMAP 3D® instruments)



Comparison of Immunoassays: Multiplex vs. ELISA



For detection of 20 biomarkers in 38 samples (run in duplicate)

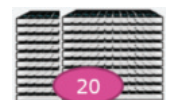
Number of plates required
Total time to result
Results per plate
Total volume required per sample
Dynamic range
Lower limit of detection

MILLIPLEX®



3 hours
1,520
10-50 µL
1-10,000 pg/mL
~1 pg/mL

ELISA



10 hours
76
0.5-1 mL
10-2,500 pg/mL
~1 pg/µL

MILLIPLEX® Immunoassays portfolio

- Broadest analyte selection across research areas and species: More than 1100 analytes across 11 species (Human, Mouse, Rat, Non-Human Primate, Bovine, Canine, Equine, Feline, Chicken, Ovine, Porcine)
- Covering several research fields: Immunology, Immune Responses, Virology, Metabolism/Endocrinology, Cardiovascular, Bone, Cancer, Neuroscience, Toxicity
- Over 14,000 published papers with data generated using our immunoassays
- Customizable, premixed, and bulk kit options to fit your exact research needs

Immunoassay panels available

- Immunology
- Immune response
- Metabolism/Endocrinology
- Cardiovascular
- Bone
- Cancer
- Neuroscience
- Toxicology