THIS IS WHERE RELIABILITY AND INSPIRATION COME TOGETHER
WHICH ASSAY TECHNOLOGY IS RIGHT FOR YOU?

IMMUNOASSAYS

Lanthanide-based technologies utilize lanthanide-chelates, rather than alternative fluorophores. These chelates possess both long fluorescence decay times and large Stokes shifts. In addition, lanthanides emit a stable fluorescent signal that exhibits a sharp emission peak and high fluorescence intensity.

Benefits of lanthanide-based immunoassays:
- Reduced background leading to better signal:background (S:B)
- Large stokes shift
- Wider dynamic range
- Increased sensitivity
- Extended signal stability
- Faster time to results

Immunoassay Comparison

<table>
<thead>
<tr>
<th></th>
<th>ELISA</th>
<th>DELFIA TRF</th>
<th>LANCE TR-FRET</th>
<th>AlphaLISA&lt;sup&gt;®&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detection Mode</td>
<td>Absorbance, Fluorescence, Chemiluminescence</td>
<td>TRF</td>
<td>TR-FRET</td>
<td>Alpha</td>
</tr>
<tr>
<td>Throughput</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Ease of Automation</td>
<td>*</td>
<td>*</td>
<td>****</td>
<td>****</td>
</tr>
<tr>
<td>Microplate Formats</td>
<td>96, 384 wells</td>
<td>96, 384 wells</td>
<td>96, 384, 1536 wells</td>
<td>96, 384, 1536 wells</td>
</tr>
<tr>
<td>Sample Types</td>
<td>Simple and complex biological samples, cell extracts</td>
<td>Simple and complex biological samples, cell extracts</td>
<td>Simple biological samples, cell extracts</td>
<td>Simple and complex biological samples, cell extracts</td>
</tr>
<tr>
<td>Analyte Size</td>
<td>Nucleotide to large protein</td>
<td>Nucleotide to large protein</td>
<td>Nucleotide to small protein</td>
<td>Nucleotide to very large protein complexes, nucleosomes, viral particles</td>
</tr>
<tr>
<td>Time to Run</td>
<td>4-6 hours</td>
<td>4-6 hours</td>
<td>1-2 hours</td>
<td>1-2 hours</td>
</tr>
<tr>
<td>Wash Steps</td>
<td>Yes</td>
<td>Yes</td>
<td>No wash</td>
<td>No wash</td>
</tr>
<tr>
<td>Dynamic Range</td>
<td>Up to 2 log</td>
<td>Up to 5 log</td>
<td>Up to 4 log</td>
<td>Up to 5 log</td>
</tr>
<tr>
<td>Relative Sensitivity (LDL)</td>
<td>&lt;100 pg/mL</td>
<td>10 pg/mL</td>
<td>10 pg/mL</td>
<td>1 pg/mL</td>
</tr>
<tr>
<td>Signal Stability</td>
<td>Up to 1 hour</td>
<td>Days</td>
<td>Up to 24 hours</td>
<td>Up to 24 hours</td>
</tr>
<tr>
<td>Multiplex</td>
<td>No</td>
<td>Yes (up to 3)</td>
<td>No</td>
<td>Yes (up to 3)</td>
</tr>
</tbody>
</table>

Application Support Knowledgebase

We’ve got you covered – 24 hours a day, seven days a week. Our assay support knowledgebase (ASK) contains detailed information on assay development, protocols, tips, FAQs, citations, troubleshooting and more. Log onto perkinelmer.com/ASK and find answers easily.

For more information on our reagents, visit www.perkinelmer.com/category/microplate-reader-assays
WHICH ASSAY TECHNOLOGY IS RIGHT FOR YOU?

**ALPHA TECHNOLOGY** is a bead-based, homogeneous assay. When Alpha Donor and Acceptor beads are brought together, a cascade of chemical reactions is set in motion, creating an amplified signal. These versatile beads are conjugated with various biomolecules that enable detection of unique biological events.

There’s an Alpha Technology solution for nearly every research application. Choose from AlphaLISA®, AlphaSureFire® Ultra™, Alpha SureFire Ultra Multiplex, AlphaScreen®, AlphaPlex, and Alpha Toolbox.

**DELFI"A TRF** (Time-Resolved Fluorescence) is a proven, robust immunodetection platform with over 20 years of history behind it. It has a similar assay principle to that of a traditional ELISA, but with the added benefits of utilizing a lanthanide chelate to reduce background and improve assay dynamic range.

**LANCE® TR-FRET** is a homogeneous proximity assay technology that combines the benefits of time resolution (TR) with fluorescence resonance energy transfer (FRET) principles by using energy donor and energy acceptor fluorophore labels. It’s everything you love about TRF detection with faster results and no wash steps.

**LUMINESCENCE ASSAYS**

Reporter gene, cytotoxicity, and cell proliferation assays are important tools in drug discovery. Luminescence assays allow for the study of transcriptional gene expression, virus life cycles, and cell viability.

Luminescence detection platforms provide simple, reproducible results over a wide dynamic range. Our luciferase-based luminescence assays include reporter gene and ATP-monitoring assays.

**Benefits include:**
- Faster time to results
- Easy setup for high throughput
- Hassle-free storage

**For more information on our reagents, visit www.perkinelmer.com/category/microplate-reader-assays**
### Summary of Modalities

<table>
<thead>
<tr>
<th></th>
<th>VICTOR Nivo</th>
<th>EnSight</th>
<th>EnVision</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UV-Vis Absorbance</strong></td>
<td>Filter or spectrometer</td>
<td>Filter and quad monochromators</td>
<td>Filter and/or quad monochromators</td>
</tr>
<tr>
<td><strong>Fluorescence Intensity</strong></td>
<td>Filter</td>
<td>Quad monochromator</td>
<td>Filter and/or quad monochromators</td>
</tr>
<tr>
<td><strong>Luminescence</strong></td>
<td>•</td>
<td></td>
<td>•</td>
</tr>
<tr>
<td><strong>Ultrasensitive Luminescence</strong></td>
<td></td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td><strong>TRF and TR-FRET</strong></td>
<td>Lamp based¹</td>
<td>Lamp based</td>
<td>Lamp or laser based¹</td>
</tr>
<tr>
<td><strong>Fluorescence Polarization</strong></td>
<td>•</td>
<td></td>
<td>•</td>
</tr>
<tr>
<td><strong>Alpha (Laser-Based)</strong></td>
<td>Alpha Standard</td>
<td>Alpha HTS</td>
<td>Alpha Standard or Alpha HTS</td>
</tr>
<tr>
<td><strong>AlphaPlex (Laser-Based)</strong></td>
<td>Alpha Standard</td>
<td></td>
<td></td>
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<tr>
<td><strong>Fast Image-based Cytometry</strong></td>
<td>•</td>
<td></td>
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<tr>
<td><strong>Dual PMT Detector</strong></td>
<td></td>
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</tr>
</tbody>
</table>

¹ All instruments are configurable.  
² Capable of BRET/BRET2 assays.  
³ HTRF® Certified.
MULTIMODE MICROPLATE READERS FOR EVERY APPLICATION AND THROUGHPUT LEVEL

VICTOR Nivo Multimode Plate Reader
- Compact and lightweight
- High performance for routine applications, including biochemical and cell-based assays
- All major detection modes including laser-based Alpha Technology
- Time-resolved fluorescence certified for use with HTRF® technology
- Intuitive, browser-based software allows for remote operation
- Optional dispenser and gas control
Best for research labs with multiple users and relatively low throughput.

EnSight Multimode Plate Reader
- Fast well imaging lets you combine technologies for an orthogonal approach
- Available HTS Alpha module is uniquely designed to provide higher sensitivity, faster read times, and reduced cross talk between wells
- Ideal for assays such as cell health/toxicity, proliferation, migration, transfection efficiency, spheroid growth, and viral infection studies
Best for research and assay development labs with intermediate throughput requirements, or when imaging is required in addition to a plate reader.

EnVision Multimode Plate Reader
- Proven performance when the highest levels of speed and sensitivity are required
- Our fastest benchtop plate reader – uses two detectors to enable simultaneous, dual-wavelength reading
- Well established for laser-based Alpha and TRF technologies, as well as ultrasensitive luminescence
- Time-resolved fluorescence certified for use with HTRF® technology
- Software that can facilitate 21 CFR Part 11 compliance for integration into regulated environments (GxP).
Best for screening and assay development labs needing high throughput and high performance.

CLICK HERE TO READ MORE ABOUT OUR PLATE READERS
CUSTOM ASSAYS
Don’t see an off-the-shelf kit option to fit your needs? Relax – we’re here to help. Whether you create your own assay, or we do it for you, we’ll have you up and running in no time.

Toolbox
Choose the right components to create the assay that fits your needs. Toolbox options are available for Alpha, LANCE TR-FRET, and DELFIA TRF technologies.

Field Application Scientists
Have one of our hands-on assay development specialists work directly with you, at your bench, to help with Toolbox assay development.

OnPoint™ Custom Labeling
Have us label your antibody or biomolecule for use in our Alpha, LANCE TR-FRET, or DELFIA TRF assays so you can develop the assay you need.

OnPoint™ Custom Assay Development
Save valuable time and resources by having our experts develop your assay for you.

Radioimmunoassays
Radioimmunoassays (RIAs) continue to be utilized as a sensitive method to analyze and quantitate small molecules, peptides, and proteins in biological samples. We offer a full range of radiochemicals and radiometric detectors to meet your RIA needs. View our entire offering of radiometric detection products here: www.perkinelmer.com/category/radiometric-detection

Microplates
Drawing on many years of experience and in-depth knowledge, we offer microplates for almost every application and throughput. Our microplates are carefully constructed to handle any unique challenges your application may bring. Ask about our ProxiPlate™ or AlphaPlate microplates, or view our entire selection here: www.perkinelmer.com/microplates

For more information on our reagents, visit www.perkinelmer.com/category/microplate-reader-assays