



HUMAN HEALTH

ENVIRONMENTAL HEALTH

THINK
OUTSIDE
THE WELL

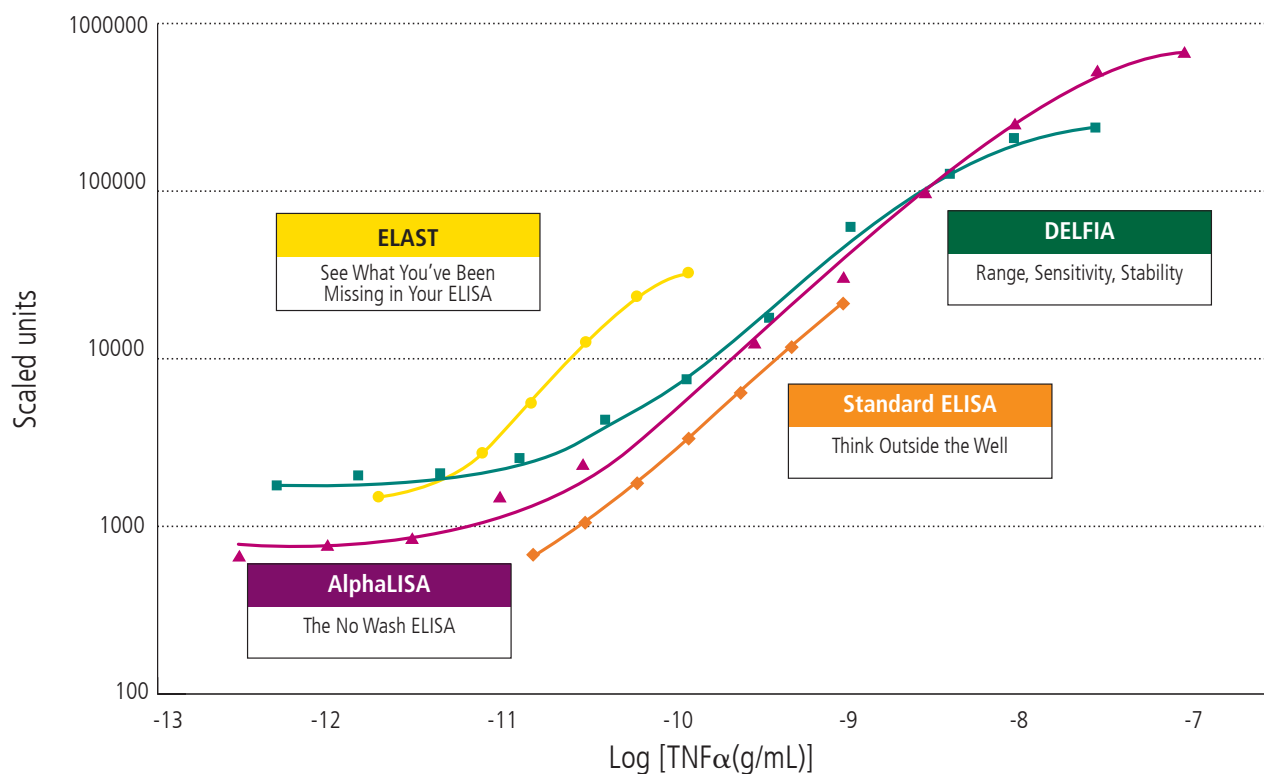
Beyond ELISA Guide


PerkinElmer[®]
For the Better

ELISA JUST GOT EASIER

Since the introduction of the radioimmunoassay (RIA) in the 1960's, immunoassay technology has been a critical piece of understanding concentrations of biological material in various sample media. In the 1970's, a quantum leap in technology occurred with the development of Enzyme-Linked Immunosorbent Assay (ELISA). ELISA and RIA are in widespread use today, and PerkinElmer continues to support these technologies with a variety of detection and automation platforms. PerkinElmer also offers several alternatives and ELISA-enhancing technologies – including AlphaLISA® no-wash immunoassays, DELFIA® with Europium labeling, and TSA™/ELAST® signal amplification – to ensure that your immunoassays perform as sensitively, efficiently and accurately as your research requires.

ELISA-Related Technologies

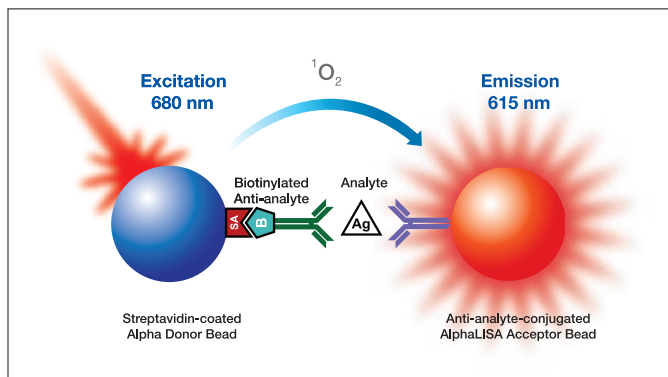


The graph compares PerkinElmer AlphaLISA, DELFIA and ELAST with standard ELISA, using the same antibodies and TNFα as antigen.

- AlphaLISA offers the greatest dynamic range and sensitivity, with almost two logs more signal at the lower detection limit than ELISA.
- DELFIA has much broader dynamic range than ELISA.
- ELAST dramatically increases signal and sensitivity of ELISA.

PERKINELMER OFFERS ALTERNATIVES TO TRADITIONAL **ELISA**

AlphaLISA: The No Wash ELISA



1. The Alpha Donor bead (blue) is coated with streptavidin which captures the biotinylated antibody.
2. The Acceptor bead (red) is coated with analyte-specific antibody.
3. The beads are brought into proximity through binding to the analyte.
4. When excited by laser at 680 nm, the Alpha Donor bead releases singlet oxygen which travels to the nearby Acceptor bead where it induces emission of light.

BENEFITS

- Save Sample: better sensitivity than ELISA
- Save Time: no wash steps to slow your research
- Save Effort: homogeneous assay all in one well

When to Use:

Moderate-high throughput, precious samples, serum or lysates

Detection and Automation:

EnVision®, EnSpire™, JANUS®

Microplates:

AlphaPlate™, OptiPlate™, CulturPlate™ ½ Area Plate

AlphaScreen® SureFire® kits: the benefits of AlphaLISA for endogenous cellular kinases

- Measure over-expressed and endogenous phosphorylated kinases
- Validated on many different cell lines
- Easy to miniaturize and automate
- Culture cells and measure kinases in a single well

The Alpha Technology Toolbox:

ready-to-conjugate AlphaLISA beads for unlimited assay possibilities.

Choose components to build your own AlphaLISA assay:

Alpha Donor beads

- Streptavidin
- Nickel Chelate
- Glutathione

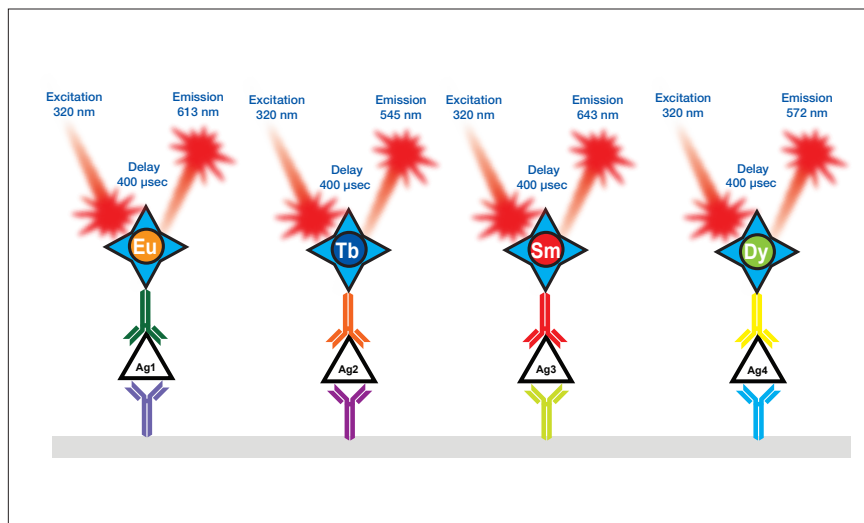
AlphaLISA Acceptor beads

- Protein A
- Protein G
- Nickel Chelate
- Glutathione
- Anti-human IgG (Fc-specific)
- Anti-rabbit IgG (Fc-specific)
- Anti-mouse IgG (Fc-specific)
- Anti-goat IgG (Fc-specific)
- Anti-rat IgG (Fc-specific)
- Anti-DIG
- Anti-FLAG
- Anti-GST
- Anti-c-myc

AlphaLISA buffers

CHOOSE FROM AMONG A BROAD RANGE OF **ELISA** TECHNOLOGIES

DELFI: Range, Sensitivity, Stability



BENEFITS

- Wide dynamic range avoids additional dilutions
- A well-proven technology with many years of validation
- Multiplex up to four analytes per well
- Stable signal allows delayed reading

When to Use:

Unknown sample concentration, limited reader availability, multiple analytes

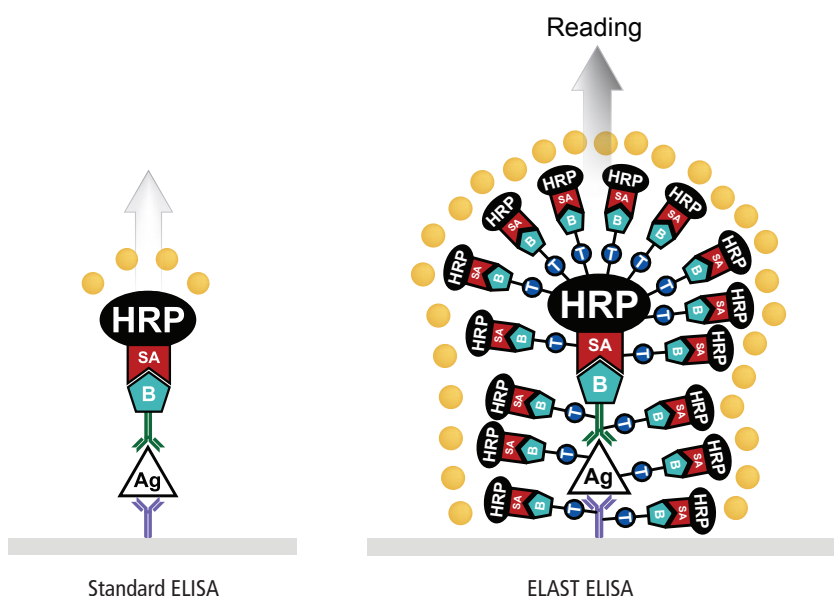
Detection:

EnVision, VICTOR™ X

Microplates:

DELFI Plate, OptiPlate

ELAST: See What You've Been Missing in Your ELISA



BENEFITS

- Higher sensitivity helps save expensive antibodies and precious sample
- Easily integrates into your existing ELISA
- Amplifies your ELISA signal 8-32 fold
- Powered by PerkinElmer's proprietary TSA technology

When to Use:

Complex samples, precious sample or antibodies low signal from ELISA

Detection:

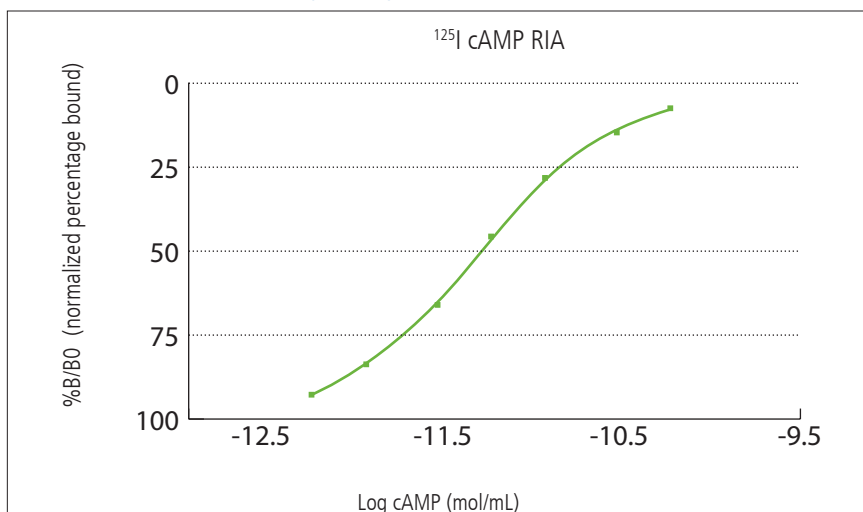
VICTOR X, EnSpire

Microplates:

Strip-well plate, SpectraPlate™

NEN Radioimmunoassays: The Gold Standard

NEN® Radioimmunoassay Assay Performance



BENEFITS

- The original immunoassay
- Legendary NEN quality, safety and consistency
- The Gold Standard for sensitivity

When to Use:

Low sample concentration, existing radiochemical workflow

Detection:

MicroBeta²™, TopCount®, Tri-Carb®, WIZARD®

Microplates:

NEN Vials, FlashPlate®

Better Microplates Mean Better Results

Microplate	Assay Technology	Available Formats
AlphaPlate	AlphaLISA, AlphaScreen	384, 1536
OptiPlate	AlphaLISA, AlphaScreen, DELFIA, ELAST, ELISA	96, 384, 1536
SpectraPlate	ELAST, ELISA	96, 384, 1536
Strip-well Plate	DELFI, ELAST, ELISA	96 (8 strips x 12 wells)
DELFI Yellow Plate	DELFI	96
ProxiPlate™	AlphaLISA, AlphaScreen	96, 384
½ Area Plate	AlphaLISA, AlphaScreen	96
CulturPlate	AlphaLISA, AlphaScreen	96, 384, 1536
FlashPlate	Radioimmunoassay	96, 384



PerkinElmer offers a complete line of high-quality microplates for every immunoassay application. Don't trust your results to generic microplates; use microplates specifically developed and validated for PerkinElmer assay technologies.

For microplates validated for use in these assay platforms, visit: www.perkinelmer.com/microplates

DETECTION AND AUTOMATION FOR **ELISA** AND ALTERNATIVES

EnVision Multilabel
Plate Readers



Fast, sensitive and versatile benchtop readers for AlphaScreen, luminescence flash and glow, fluorescence intensity, time-resolved fluorescence, fluorescence polarization, and UV/absorbance.

EnSpire Alpha or
EnSpire AlphaPLUS
Multilabel Plate Readers



High performance and affordable benchtop monochromator and Alpha readers for fluorescence, UV/absorbance and AlphaScreen technology.

JANUS Automated
Workstations



Automation and liquid handling of complex assays, from sample preparation to full automation through detection and analysis.

VICTOR X Multilabel
Plate Readers



Versatile, high performance filter based reader for glow luminescence, fluorescence intensity, time-resolved fluorescence, fluorescence polarization, UV/absorbance.

Tri-Carb Liquid
Scintillation Analyzers



Liquid and dry scintillation and luminescence methods for research including radioimmunoassay (RIA), and more.

WIZARD Automatic
Gamma Counters



Gamma counting for radioimmunoassays (RIA), chromium (^{51}Cr) release studies, and more.

MicroBeta² or MicroBeta²
LumiJET Plate Counters



Liquid scintillation analyzers for alpha, beta and gamma radioactivity methods including radioimmunoassay (RIA), and more.

TopCount Liquid Scintillation
and Luminescence Counters



Liquid and dry scintillation, flash and glow luminescence methods for research, including radioimmunoassay (RIA), and more.

ONPOINT REAGENT SERVICES:

WE DEVELOP, YOU DISCOVER

Success depends on your most valuable resource: your scientists. But when they have to develop their own assays and reagents, they are able to devote less time to investigating and innovating. That's why we've developed OnPoint® Reagent Services – the complete solution for accelerating and simplifying life-science research and drug discovery.



OnPoint Services for ELISA include:

- **ELISA Conversion:** We can convert your existing ELISA to a fully optimized assay using one of our ELISA alternative technologies.
- **Custom Labeling:** Get your peptide, antibody, or protein substrate or nucleotide custom labeled so you can develop the assay you need.
- **Microplate Coating Service:** Our extensive experience with microplate coating technology allows us to be as flexible as your needs require.
- **Custom Radiosynthesis & Radiolabeling Services:** PerkinElmer's experienced chemists will work with you, scientist to scientist, to design and prepare your radiochemical.

Ordering Information

DELFIA plates and reagents

Cat. No.	Description	Package
AAAND-0001	DELFI Yellow Plate, 96-well	60 plates
AAAND-0005	DELFI Yellow Plate, 96-well	60 plates
1244-360	DELFI Eu-labeled streptavidin	250 µg
AD0021	DELFI Assay Buffer	250 mL
1244-111	DELFI Wash Concentrate	250 mL
1244-114	DELFI Enhancement Solution	50 mL
4013-0010	DELFI Inducer	250 mL

ELAST and p24 ELISA kits

Product	Description	Product No.
ELISA Amplification System	Contains reagents to amplify signals in ten 96-well ELISA microplates	NEP116001EA
ELAST Evaluation Size	Contains reagents to amplify signals in one 96-well ELISA microplate	NEP116E001EA
ELAST ELISA Amplification System	For use with the Alliance HIV-1 p24 Antigen ELISA Kit	NEP116VL001PK
Alliance HIV-1 p24 Antigen ELISA Kit	One 96-well plate and reagents for 96 tests	NEK050001KT

Radioimmunoassay kits

Product	Description	Product No.
11-Dehydrothromboxane B2 [¹²⁵ I]-RIA Kit	250 assay tubes	NEK042A001KT
6-Keto-Prostaglandin F1α [¹²⁵ I]-RIA Kit	125 assay tubes	NEK025001KT
Cyclic AMP [¹²⁵ I]-Tracer Plus Carrier Serum	100 assay tubes	NEK035001EA
Cyclic AMP [¹²⁵ I]-Tracer RIA Kit	200 assay tubes	NEK033001KT
Cyclic GMP [¹²⁵ I]-Tracer RIA Kit	200 assay tubes	NEX133001KT
Inositol 1, 4, 5-trisphosphate, [³ H]-Radioreceptor Assay Kit	192 assay tubes	NEK064001KT
Leukotriene B4 [³ H]-RIA Kit	250 assay tubes	NEK037A001KT
Prostaglandin E2 [¹²⁵ I]-RIA Kit	125 assay tubes	NEK020001KT
Thromboxane B2 [¹²⁵ I]-RIA Kit	125 assay tubes	NEK024001KT

AlphaLISA immunoassay kits are available for research in several key therapeutic areas.

Angiogenesis	Biologics & Bioprocess	Cancer		Cardiovascular
<ul style="list-style-type: none"> EPO TNFα TNFα (mouse) VEGF VEGFB VEGFC VEGFD 	<ul style="list-style-type: none"> CHO-P <i>E. coli</i> IgA IgG IgM NSO-P Residual Protein A 	<ul style="list-style-type: none"> AFP CA125 CXCL11/I-TAC EGF-R EPO EPO-R ERBB2 / HER2 HGFR/c-MET IFN-β 	<ul style="list-style-type: none"> MMP1 MMP2 MMP3 MMP9 PSA TFF3 TIMP1 TNFα β-NGF 	<ul style="list-style-type: none"> Alpha-2 macroglobulin EPO ICAM-1 Myeloperoxidase NT-proBNP PCSK9 Plasminogen Renin/Prorenin tPA
Inflammation		Metabolic		Neurodegeneration
<ul style="list-style-type: none"> CCL2 / MCP1 CCL2/MCP-1 (mouse/rat) CCL3/MIP-1α CCL4/MIP-1β COMP CRP CXCL1/GRO-α CXCL10/IP-10 CXCL9/MIG G-CSF GM-CSF IFN-α IFN-γ 	<ul style="list-style-type: none"> IFN-γ (mouse) IL10 IL10 (mouse) IL12 (p70) IL13 IL15 IL15 (mouse) IL17 IL17A (mouse/rat) IL18 IL1α IL1β IL1β (mouse) 	<ul style="list-style-type: none"> IL2 IL2 (mouse) IL3 IL4 IL5 IL6 (mouse) IL6 IL7 IL7 (mouse) IL8 TNFα TNFα (mouse) 	<ul style="list-style-type: none"> Albumin (mouse) Adiponectin C-peptide (mouse/rat) GH GLP-1 IGF1 IGF2 Insulin Leptin Prolactin 	<ul style="list-style-type: none"> Amyloid β 1-15 /16 Amyloid β 1-40 Amyloid β 1-40 (High Specificity) Amyloid β 1-40 (mouse/rat) Amyloid β 1-42 Amyloid β 1-42 (High Specificity) Amyloid β 1-42 (mouse/rat) sAPPα sAPPα (C-term specific) sAPPβ sAPPβ (High Sensitivity) Tau
				Virology
				<ul style="list-style-type: none"> HIV p24

AlphaLISA kits are for research purposes only, and not for diagnostic procedures.

 **NEW**

For more information please visit www.perkinelmer.com/beyondelisa

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