

# AlphaLISA Assay Development Service

First in a series of assay development services that will be available to help you get the results you need, quickly!

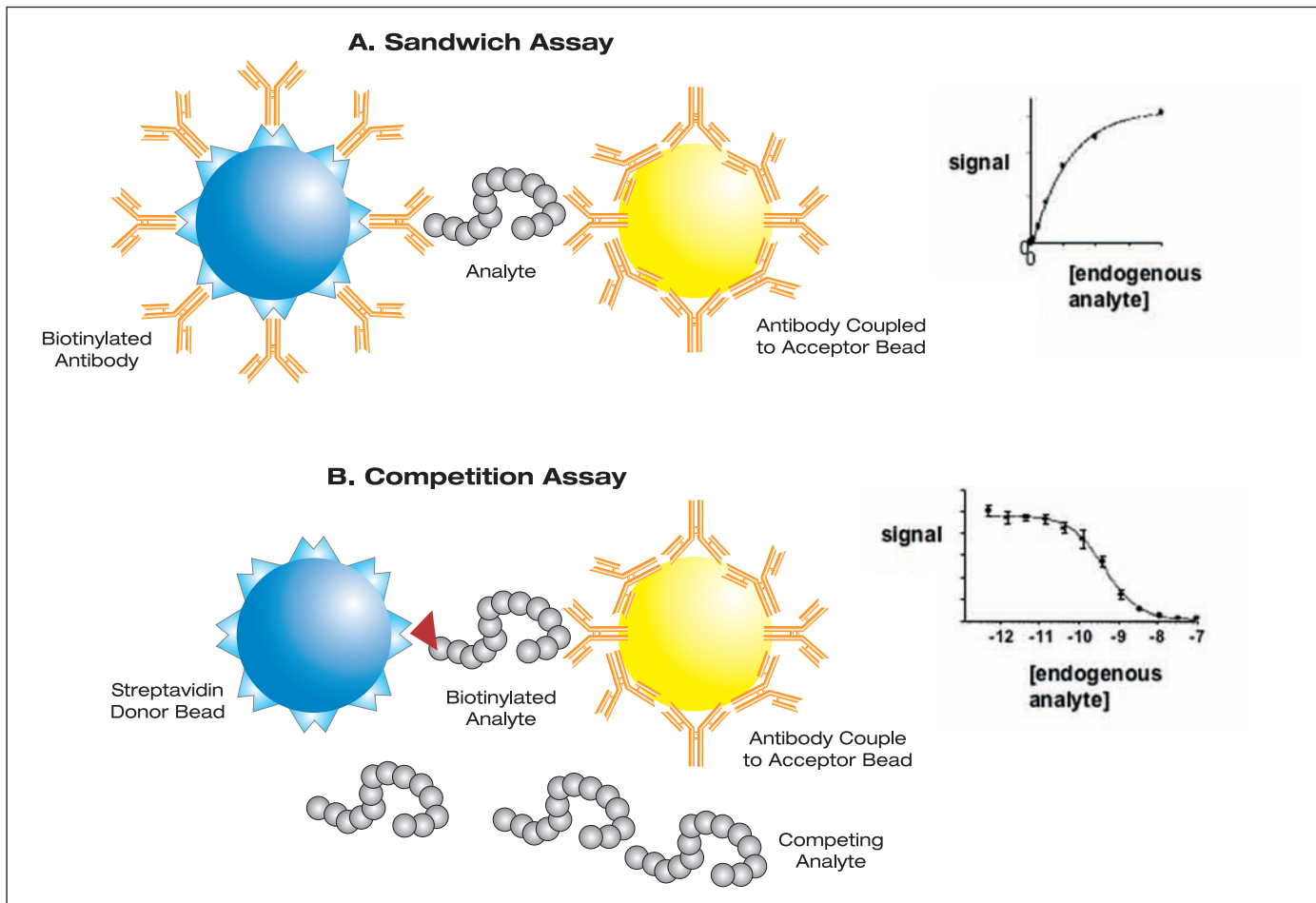


## Eliminate ELISA limitations — convert to AlphaLISA!

Convert troublesome traditional ELISAs to a much superior alternative—PerkinElmer’s highly sensitive, homogeneous AlphaLISA. Our exclusive AlphaLISA assay platform offers a wide dynamic range and easy automation for analysis of biomarkers and other analytes.

### Overview

PerkinElmer’s AlphaLISA™ Assay Development Service provides a range of services for the conversion of ELISAs to homogeneous “no wash” AlphaLISA assays. The service is completely flexible, allowing you to tailor the level of service—from consultative support or full assay development—to suit the needs of your assays and workflow.



The ELISA conversion platform is based on PerkinElmer's proprietary bead-based AlphaLISA technology, allowing the development of highly sensitive, homogeneous assays that are easily automated. The system comprises of a Donor bead and an Acceptor bead. Once the beads are brought into close proximity, a singlet of oxygen is transferred from the Donor bead to the Acceptor bead. Upon excitation with a laser, the singlet oxygen excites the Acceptor bead which in turn emits light.

**A. Sandwich Assay:** This assay format requires 2 antibodies which recognize different epitopes on the analyte of interest. One antibody is biotinylated and is captured by the streptavidin coated Donor bead. The second antibody is coupled to the Acceptor bead. The presence of the analyte results in an immuno-sandwich, thus bringing the Donor and Acceptor beads into close proximity. As the concentration of the analyte increases, more Donor-Acceptor immuno-sandwiches are formed, resulting in an increased signal.

**B. Competition Assay:** Competition assays are utilized when only one antibody to the analyte of interest is available, or for very small molecules such as hormones. This format utilizes a biotinylated analyte-tracer which displaces and competes with the analyte of interest. In this assay format, an increasing concentration of analyte results in a decreasing signal as less of the biotinylated analyte-tracer will form an immuno-complex with the two beads.

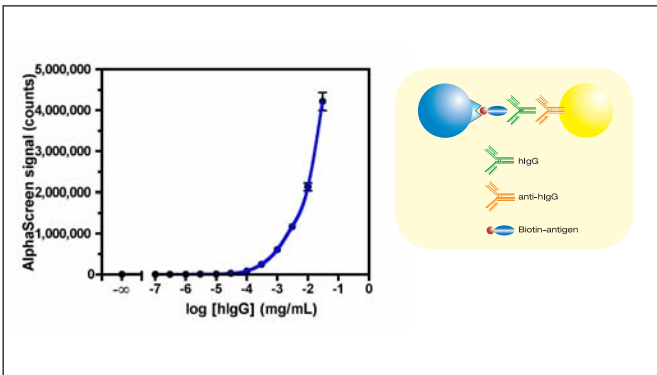
### Applications

AlphaLISA assays offer many benefits, which make them preferable to ELISAs for a wide range of applications. They are especially ideal for detection of rare or proprietary biomarkers and biological therapeutics. Easy to automate, AlphaLISA assays are also perfect for assaying common analytes that must be analyzed in a high throughput format. They are compatible with a variety of different sample formats, including serum and plasma.

### AlphaLISA assays mean:

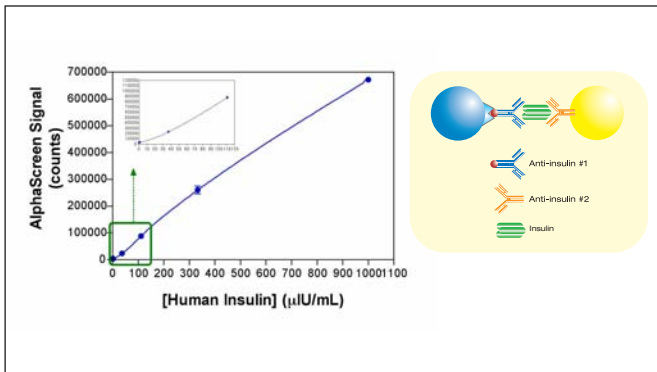
- **Homogenous no-wash technology:** easily automated and less assay variation than ELISA.
- **Wide dynamic range:** 3 to 4 logs in most standard assays minimizing dilution steps.
- **Highly sensitive:** signal amplification ensures the utmost sensitivity for the detection of low concentration analytes.
- **Broad range of affinities:** allows the use of high and low affinity antibodies.
- **Detection of a wide range of analyte sizes:** from small hormones to bulky complexes.

## Detection of Human IgG from Cell Culture Supernatants



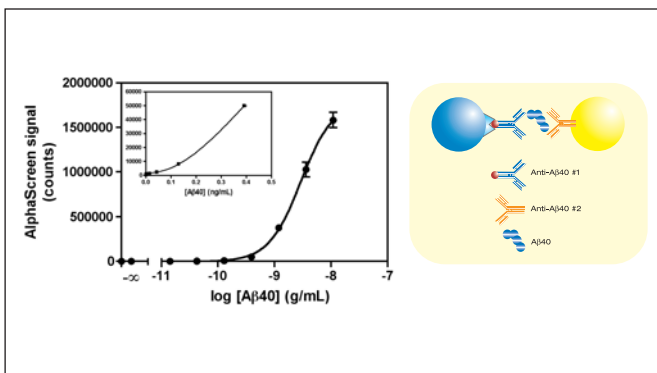
hIgG calibration curve generated in DMEM/10% FBS. High sensitivity: 3.6 ng/mL. Dynamic range: 4 log units.

## Quantification of Human Insulin in Serum



Calibration curve using 5 µL insulin calibrators prepared in insulin-depleted serum (384 format). Detection limit: 2 µIU/mL (85 pg/mL) using a 5 µL sample size. Dynamic range: 2–1,000 µIU/mL.

## Measurement of Amyloid Beta 1–40 peptide



Aβ40 calibration curve in 384 format. Sensitivity: 5 pg/mL using a 30 µL sample volume, dynamic range: 3.5 log units.

## Assay Development Service

### AlphaLISA Assay Development Service means:

- **Flexible assay development:** tailor the assay development service to fit your needs.
- **Comprehensive application support:** PerkinElmer scientists to work with you step by step to develop your assay.
- **Complete technology transfer:** once your assay is fully developed, we will provide you with a full protocol, proof of concept and on-site technology transfer training.

## Assay Development Process

### 1. Scientific Consultation

The first step in the assay development process is a technical feasibility consultation with you and PerkinElmer assay development scientists. At this stage, assay technicalities and performance criteria are discussed.

### 2. Assay Development Proposal

Following a successful scientific consultation, a customized service proposal is prepared for you. This will include a detailed description of the assay development plan, deliverables and timelines.

### 3. Assay Development

During the assay development phase, the PerkinElmer assay development team will provide preliminary feedback on progress and report key milestones.

### 4. Technology Transfer

Once the assay is developed, a technology transfer will be completed by PerkinElmer as agreed in the Assay Development Proposal. The technology transfer typically includes the following:

- Proof of concept report
- Detailed assay protocol
- Assay training

## Automate your AlphaLISA assay with PerkinElmer's liquid handling and automation solutions

PerkinElmer's complete family of robotic liquid handling systems makes it easy to automate your AlphaLISA assays. Choose our adaptable JANUS™ Automated Workstation or Evolution™ P<sup>3</sup> Precision Pipetting Platform, both with proprietary Modular Dispense Technology™ (MTD), for walk-away automation. Or automate reagent dispensing with the flexible FlexDrop™ Plus Precision Reagent Dispenser, multi-function MiniTrak™ or economical Apricot Personal Pipettor.

### Featured Products

**JANUS Automated Workstation:** our breakthrough modular liquid handling solution with proprietary Modular Dispense Technology (MDT) provides real-time and future adaptability in throughput, capacity and dynamic volume range. Features the widest dynamic volume range on the market, automatic dispense head switching from nanoliters to microliters (with no user intervention), hands-off “on the fly” adaptability in dynamic volume range and microplate densities up to 1536 wells, and much more.

**FlexDrop PLUS Precision Reagent Dispenser:** our premier precision reagent dispenser delivers rapid and precise, non-contact automated liquid dispensing. This small footprint instrument provides the flexibility to handle your diverse applications.

**EnVision Multilabel Reader:** our fast, sensitive and versatile bench-top reader delivers optimized performance in every application, and for every label. Its unique label-specific optimal mirror modules enable rapid change from one detection technology to another. High energy flash lamps, high speed detectors, and plate conveyor and stackers with parallel functionality and fast physical movements have all been designed to achieve maximum speed for microplates from 1 to 3456 wells.

Easily integrated into robotic systems, EnVision is the counter of choice for our highly sensitive, versatile AlphaScreen® and AlphaLISA assay platforms using a

dedicated Alpha module. A new TRF LASER option provides the best possible Z' values for homogeneous TRF assays such as LANCE.

**AlphaLISA microplates:** our white polystyrene OptiPlate™ microplates, available in 24-well to 1536-well formats, provide excellent light reflection and the highest efficiency with low background for AlphaLISA assays. Our shallow well ProxiPlate™ microplates bring the reagent into closer proximity to the reader's detectors and increases signal. Available in 96-well and 384-well formats.

## PerkinElmer Assay Development Services

### Coming soon:

- **GPCRs**
  - Aequorin cell lines and assays
  - Classical cell lines
  - cAMP
  - Membranes: Ligand binding and GTPγS
  - Frozen cells
  - *SureFire*™ ERK
- **Kinases**
  - TR-FRET (LANCE®) for peptides
  - Antibody-based and antibody-free for proteins using AlphaScreen
  - Cell-based external substrate using AlphaScreen
  - Cell-based intracellular substrates using *SureFire*™
- **Protein-Protein Interactions**
  - Using AlphaScreen

### Screening and profiling (with PerkinElmer Partners)

## Take advantage of our Assay Development Services—it could not be easier!

At PerkinElmer, we have the expertise and the range of technology platforms to help you to choose the right platform and technology for your assay, and to provide the level of service you require. For additional information or to request a quotation, please contact your local PerkinElmer Sales Representative or call 800-762-4000.

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