



Figures: with courtesy of Gyros Protein Technologies AB

- Immunogenicity studies (detection of ADAs and nAbs)
- Detection of cytokines, chemokines and other biomarkers
- Affinity determinations and potency estimations
- Detection of impurity levels

When time, assay miniaturization and dynamic range matters ...

Development of Biologics: Our Experience – Your Track to Success

IBR Inc. is a Swiss GxP-compliant contract research organization founded in 1998. With a focus on bio-analytical services for therapeutic antibodies, biologics, antibody-drug conjugates and vaccines, IBR Inc. is covering the bioanalytical needs from pre-clinical and clinical development to manufacturing. Beside a broad panel of classical bioanalytical methods, IBR Inc. offers advanced technologies including Alpha technology, TR-FRET, MSD-ECL, Gyrolab™, flow cytometry, multiplex cytometric bead array and quantitative PCR. The IBR Inc. team has vast experience with primary cells, transformed cell lines and transfected reporter-gene cell systems as well as longstanding expertise on 2D and 3D cell based assays. IBR Inc. supports your studies from assay development to assay validation and sample measurement.

With Gyrolab™ xPlore IBR Inc. offers an immunoassay platform for high throughput and sample requirement down to nanoliter-scale. The system provides automated sample and reagent dispensing and is capable of processing up to 112 data points in 1 hour. The Gyrolab™ technique substantially decreases matrix effects and can be deployed for all body fluids, cell culture supernatants and lysates. The dynamic range of Gyrolab™ is much broader than the range of a conventional ELISA.

Gyrolab™ nanoliter-scale immunoassay platform

The Gyrolab™ platform uses very precise microfluidic affinity columns. 112 columns are engineered on a single CD. Each column contains streptavidin coated beads which immobilize biotinylated capture reagent for analyte binding. Analyte binding is measured by laser-induced fluorescence detection using Alexa Fluor 647 detection reagents.

Automated addition of sample and reagents and an overflow channel with hydrophobic barriers ensure a highly accurate loading of a 15 nL affinity column by a flow-through mechanism. The flow-through mechanism reduces matrix interference, resulting in an increased compatibility with many matrices such as serum, plasma, sputum, cerebrospinal fluid, cell culture supernatant and lysates.

Compared to a conventional sandwich ELISA, the Gyrolab™ technology demonstrates an approximately 100x broader dynamic range.

The Gyrolab™ platform is ideal for assay miniaturization down to nanoliter scale within a range of 20-1000 nL sample volume. 112 data points on one CD are processed within 1 hour with high sensitivity, accuracy and precision.

The flexibility of the Gyrolab™ system allows the development of customized assays. Furthermore, a broad variety of ready to use kits expands the range of applications.

Applications

The Gyrolab™ system is a versatile platform that finds its application throughout all phases of biopharmaceutical development, from discovery to pre-clinical and clinical development as well as manufacturing. It is a powerful tool to detect ADAs, nAbs, cytokines, chemokines and other biomarkers, therapeutic antibody-antigen interactions for affinity determinations and potency estimations as well as impurity levels. The Gyrolab™ system presents the advantages of saving time, assay miniaturization and a broader dynamic range over the conventional ELISA.

 **SWISS GxP COMPLIANT TEST FACILITY**

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Detection reagent – Alexa Fluor® 647

Analyte

Biotinylated capture

StrAv-bead (packed bed)

