**Introduction**

**Biosensor Interferometry (BLI)**

- Label-free technology based on reflection of light on the surface of a biosensor tip
- The shift in interference pattern plotted against time when a molecule is bound
- gateR® next-generation BLI is a versatile real-time analysis platform
- Minimal hands-on time
- Wide applications ranging from protein-protein interactions, therapeutics development and virus-vector analysis
- Tolerant to different buffer, cell media, crude lysates, serum and plasma

**High throughput gateR® Pro Instrument**

- Fast, automated and accurate biomolecule characterization
- Built-in 32 spectrometers for up to 32 parallel biomolecule interactions in as little as 2 mins
- Three sample plates and one biosensor plate for high-throughput monitoring
- Flexible 96-well and 384-well sample plate format

Here, we present data from some unique applications like:

- Epitope binning
- Biosimilar kinetiks
- Nanobody screening
- Small molecule interactions

**Epitope Binning**

- High-throughput 32 x 32 epitope binning assay utilizing gateR® Pro instrument in less than 8 hours
- Accurate and automated tandem or traditional sandwich format
- Easy data visualization and interpretation
- Broad range of biosensors for tandem and sandwich format

**Biosimilar Kinetiks**

- gateR® Human Fc (HFC) Receptor II biosensor detects Fc region of all four IgG isotypes making it suitable for biosimilar screening
- The biosensor can be regenerated up to 20 times without loss in signal, thus making them cost-effective
- Three sample plates and one biosensor plate
- Built-in 32 spectrometers for up to 32 parallel and in gene therapy.

**Lipid nanoparticle solutions**

- Anti-PEG probes enables the detection and quantification of LNPs
- Unique optical layer, no inverted binding signal from LNP binding
- Small molecules can be immobilized onto the probes to study the interaction with LNPs

**Nanobody Screening**

- High affinity (μM) interactions between twin-Strep-tag fused protein, Fab fragments or nanobody with Strep-Tactin® XT biosensors
- Fast and accurate twin-strep-tagged nanobody screening using Strep-Tactin® XT biosensors

**Small molecule interactions**

**gateR® SMAP Probes**

- Detect small molecules up to 950 Da with a binding partner
- Strep-tavidin based proprietary surface chemistry for high-capacity immobilization of bioaffinity binding partners
- Determination of the kinetic parameters (kon, koff and KD) of the small molecule with the immobilized binding partner
- Enhanced signals vs traditional BLI platforms

**Peptide binding using gateR® Strep-tavidin (SA) XT Probes**

- The biosensor detects biotinylated oligos, peptides and proteins above 1 kDa
- Unique optical layer with novel proprietary chemistry enhances the signal 5-3x than the traditional BLI platform
- Large biomolecule up to 2 MDa can be detected without inversion of signal
- High signal for lowering of ligand and analyte, hence conserving precious sample
- Accurate determination of the kinetic parameters (kon, koff and KD) from small peptides to large biomolecules

**AAV Solutions**

**AAV capsid Titer in Crude Samples**

- gateR® H5 AAV1/AAV2 kit is a "slube and dip" method perfect for upstream samples
- The kit accurately determines the AAV capsid titer without matrix interference
- The sensitivity is enhanced due to patented amplification technology
- Less hands-on time than ELISA

**AAV capsid Titer in Purified Samples**

- Together gateR® AAVX/AAV9 biosensors and gateR® high sensitivity (HS) AAV1/AAV2 kit detects high dynamic range of AAV serotypes and recombinant AAV capsids (1.00E+07 to 1.00E+13 vp/mL)
- Automated, accurate and fast epitope binning
- Fast biomolecule characterization using gateR® Pro Instrument
- Faster and cost-effective solutions in biotherapeutic development and gene therapy

**Conclusion**

- gateR® next-generation BLI platform: one tool, many answers
- Fast biosimilar characterization using gateR® Pro instrument
- Automated, accurate and fast epitope binning
- Precise and efficient biosimilar kinetiks
- Accurate and easy kinetic platform for LNPs
- Easy and specific nanobody screening
- Enhanced small molecule and protein kinetic interactions
- Accurate kinetic parameters for small peptides to large protein using gateR® SA XT biosensors
- Total AAV solutions
- Precise AAV titer from upstream to downstream samples
- Accurate determination of Empty vs full ratio
- Comprehensive suites of biosensors to support different development stages
- Faster and cost-effective solutions in biotherapeutic development and gene therapy