



# Octet® R8e BLI System

Discover with Accuracy:  
Enhanced BLI Analytics  
With New Heights  
of Sensitivity

Simplifying Progress

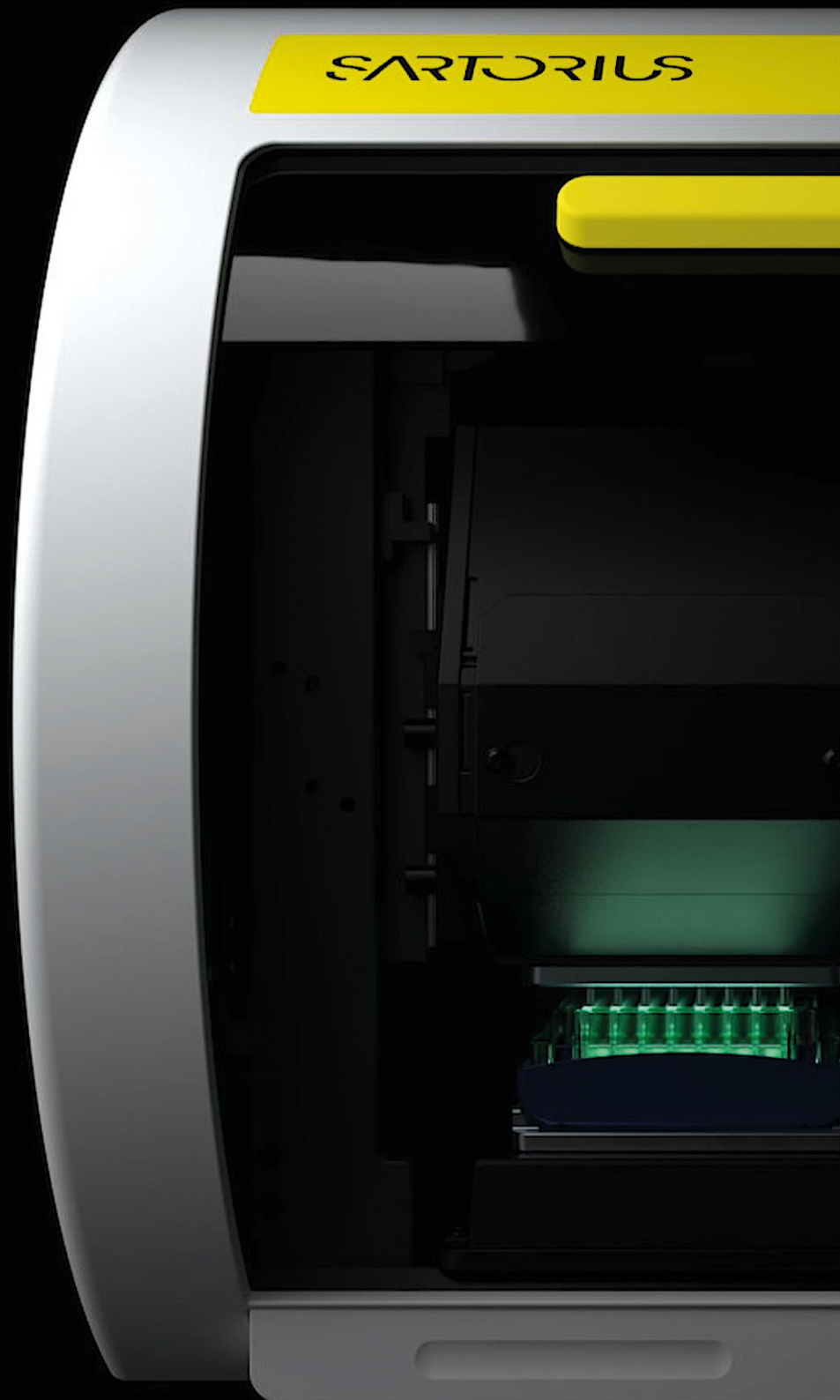
**SARTORIUS**

# The New Octet® R8e

Outstanding Sensitivity.

Reliable Data.

Unlimited Potential.



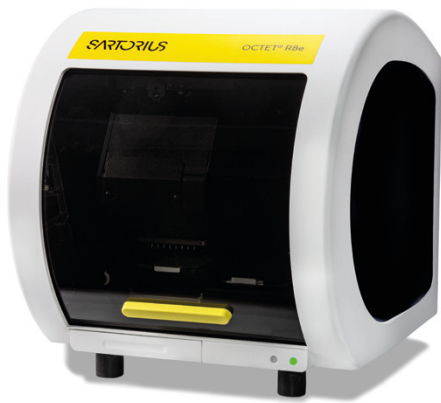
# The Most Advanced Detection Capabilities in BLI

Building on the foundational biolayer interferometry (BLI) technology of the Octet® platform, the Octet® R8e features enhanced BLI technology for researchers seeking advanced detection capabilities in real-time, high-throughput biomolecular interaction analysis.

This instrument redefines the boundaries of detection and performance in BLI, accommodating low-molecular weight (> 100 Da) and low-abundance (>10 pM) analytes. It meets the scale and cost demands of studies with flexible throughput and extended unattended run times.

With its exceptional versatility, the Octet® R8e opens new opportunities for research, ensuring reliable results from the initial discovery stages to complex manufacturing processes.

## Elevate Your Lab's Capabilities



- **Best-in-Class Sensitivity:** Enhanced BLI technology broadens the dynamic range and improves detection limits, enabling accurate measurement of low molecular weight and low-abundance analytes.

- **Maximum Efficiency:** Compatibility with 384-well plates increases throughput and enables sample volumes as small as 40 µL, reducing the cost of analysis per sample.



- **Extended Runtime:** Advanced evaporation control in the 96-well plate format preserves sample integrity, allowing for extended runtimes of up to 16 hours.

- **Unlocked Potential:** The combination of cutting-edge innovation with long-term flexibility supports new applications and workflows without costly upgrades.

# One System, Many Applications

The Octet® platform is a comprehensive tool for screening and characterizing molecular interactions, including protein-protein and protein-drug interactions. It supports a wide range of applications across various stages of biologics and drug development, from early selection and validation to manufacturing.

## Octet® Platform Applications

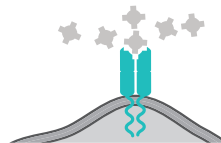
Competition | Inhibitor Assays    Small Molecules



Viruses | Vaccines



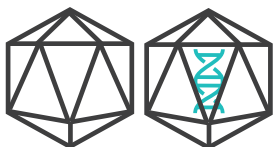
Ligand Binding Assays



Fc Receptors

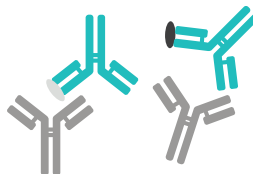


AAV E/F Ratio

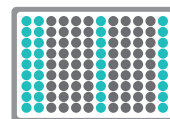


Epitope Binning

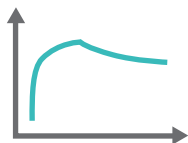
- In-tandem assays
- Sandwich assays
- Pre-mix assays



ELISA  
Replacement



Off-rate Ranking



Aptamers



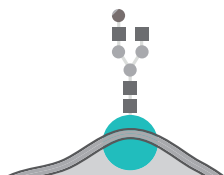
Biosimilars



DNA | RNA  
Binding Proteins



Glycan Profiling



Residual Protein Analysis



Manufacturing Control  
Bioprocessing QC



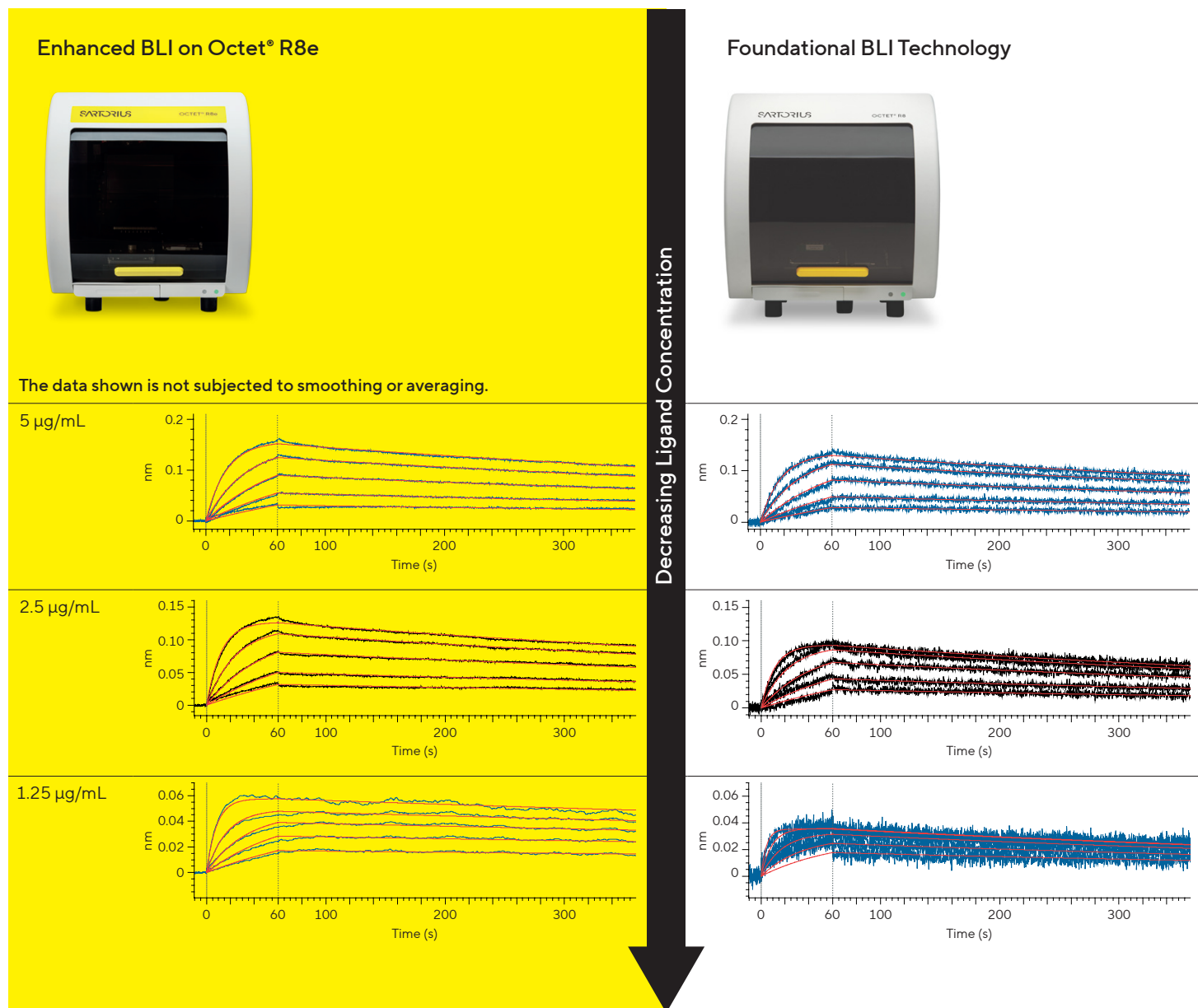


# Confident Results Even at the Edge of Detection

The Octet® R8e BLI System achieves picometer resolution in BLI response levels, enhancing the resolution of lower molecular weight interactions. This capability allows for the examination of molecular interactions at significantly reduced ligand surface densities, minimizing secondary interactions, preserving analyte activity, reducing aggregation, and limiting mass transport effects.

Even prior to data processing, the sensorgram data generated by the Octet® R8e provides the resolution necessary to interpret weak binding events, enabling researchers to confidently advance critical discovery programs.

## Sensorgram Comparison



The Octet® R8e BLI System delivers cleaner data with significantly lower-noise levels.

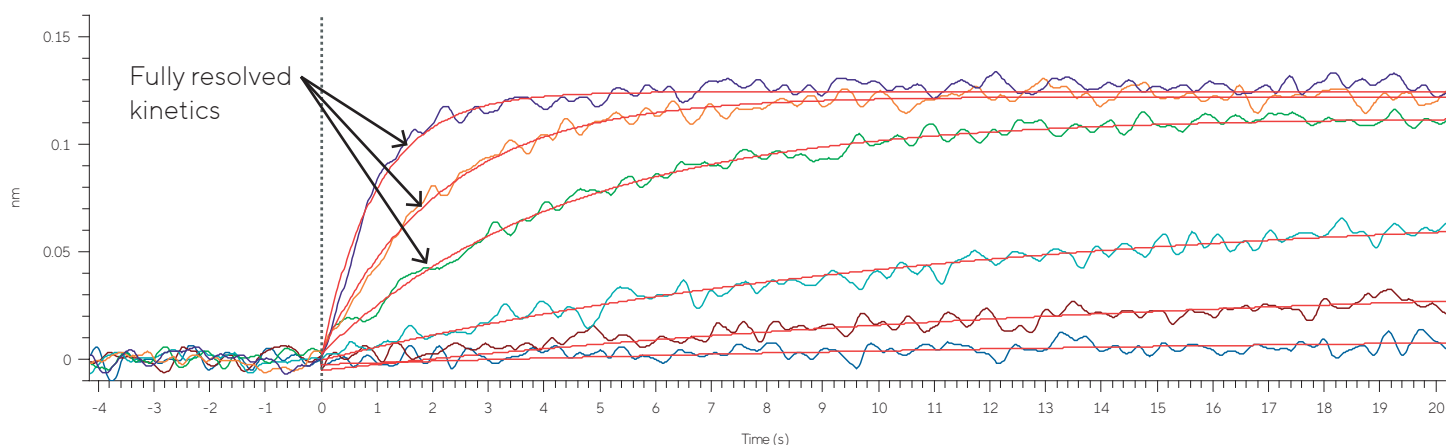
# Reliable Capture of Fast Initial Kinetics With Enhanced Data Acquisition

The Octet® R8e introduces enhanced data acquisition, enabling real-time capture of the initial binding phase, a critical window often missed by foundational BLI technology. The Octet® R8e delivers greater accuracy and confidence in kinetic analysis, leading to:

- More accurate kinetic rate calculations
- Better differentiation between fast- and slow-binding molecules
- Higher confidence in kinetic parameters, even for fast or weak interactions

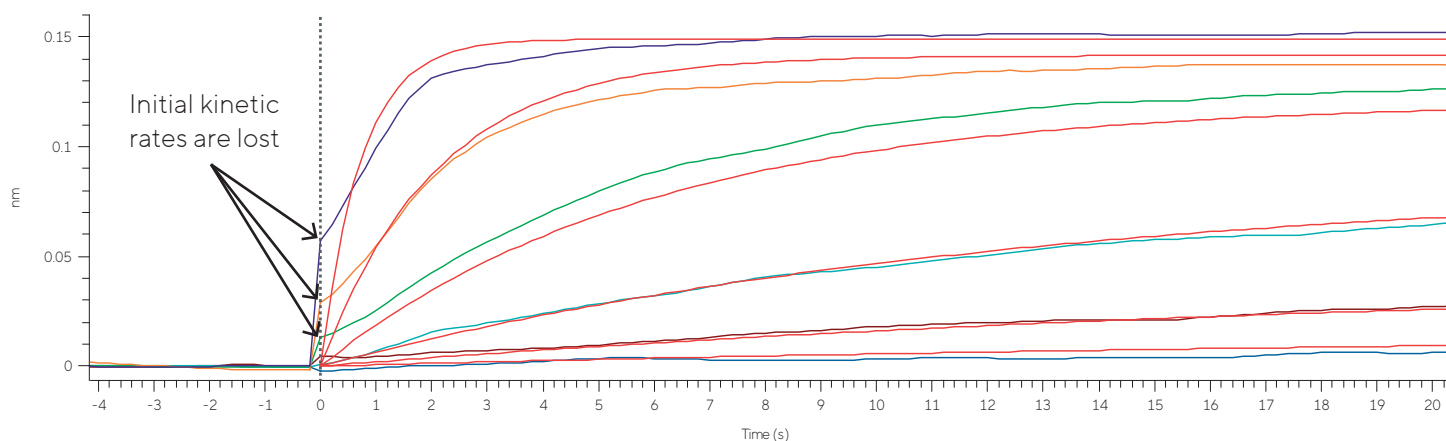
## Octet® R8e

### Enhanced Data Acquisition



## Foundational BLI Technology

### Standard Data Acquisition



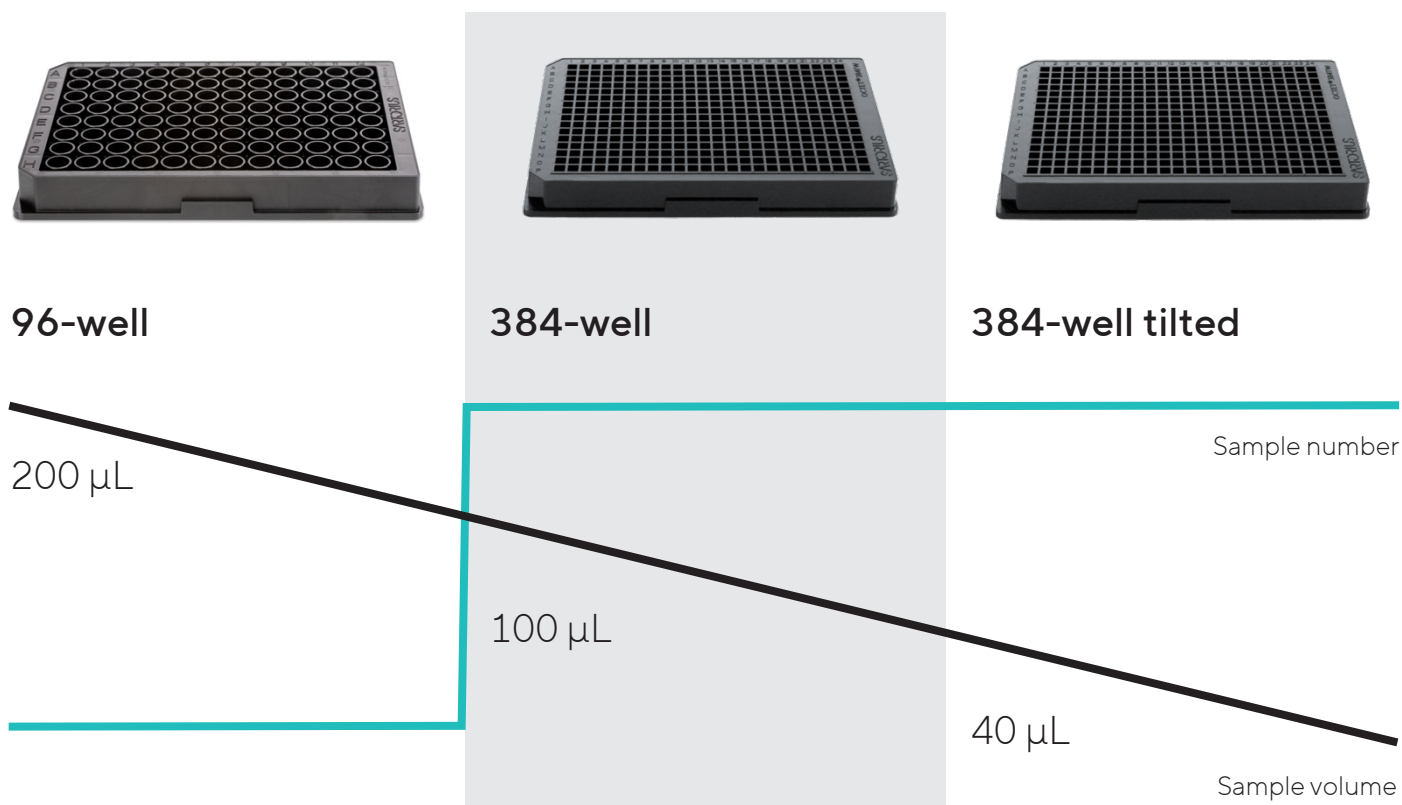
High-resolution initial kinetic rates ensure that no critical binding information is lost.

# More Data From a Single Assay With Only 20% of the Sample

The capabilities of the Octet® R8e BLI System are extended to accept both 96- and 384-well microplate formats. 384-well microplates offer an instantly recognizable benefit over 96-well microplates by increasing cost efficiency through use of smaller sample volumes (40  $\mu$ L versus 200  $\mu$ L, respectively). By using smaller sample volumes, the need for reagents and materials is reduced, significantly lowering the overall assay cost.

Workflows involving precious or limited samples will benefit from reduced sample volumes as well as increased sample capacity and more conditions per run. The Octet® R8e system's 384-well plate compatibility allows the following:

- **Minimized Sample Usage:** Use as little as 40  $\mu$ L, perfect for rare or expensive analytes
- **Enhanced Capacity:** Process more samples per plate, boosting productivity
- **Improved Efficiency:** Experience fewer plate changes and achieve more results in a single session
- **Reduced Waste:** Benefit from smaller volumes, lower reagent costs, and greener workflows



The Octet® R8e BLI System offers flexibility in experimental design to meet a wide range of assay requirements.

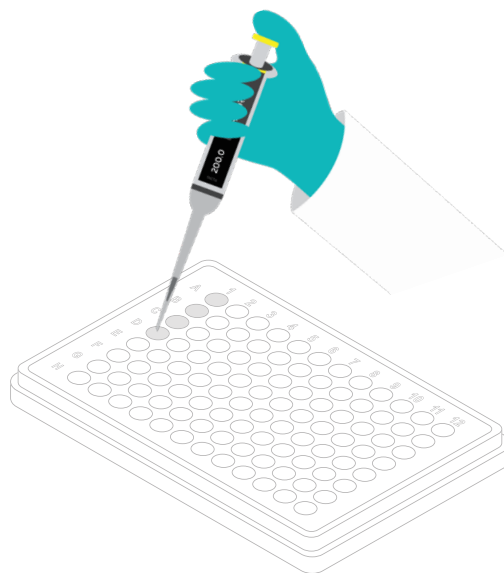
# A Workflow Everyone Knows, Intuitive from Sample to Insights

Biomolecular Interaction Analysis for Screening,  
Kinetics, Affinity, Epitope Binning, Concentration,  
and Relative Potency.

## Step 1: Prepare the sample plate

**Set-up once. Explore more.**

- Run different assay conditions in parallel
- Higher operational efficiency with capacity options and streamlined assay development in parallel

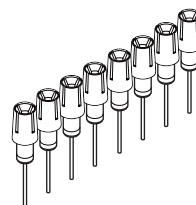


## Step 2: Prepare the biosensors

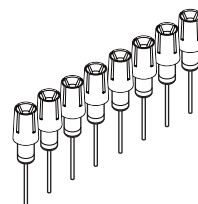
**Use one to 96 Biosensors -  
your choice, or fully flexible.**

Biosensors are available in a wide range of surface chemistries for use in a diverse set of biomolecular applications.

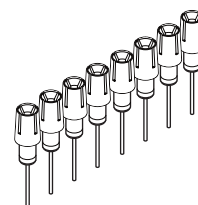
Hydrate the  
biosensor tips



Attach ligand

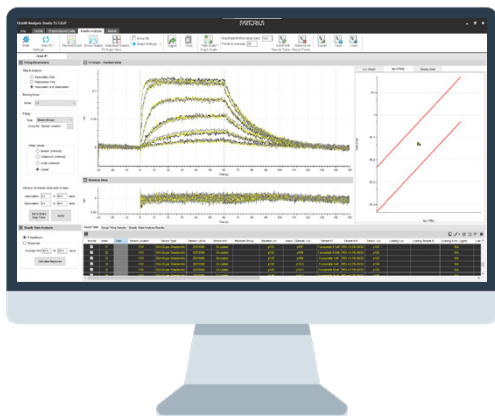
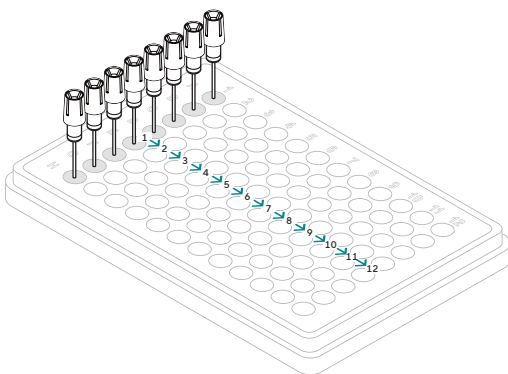
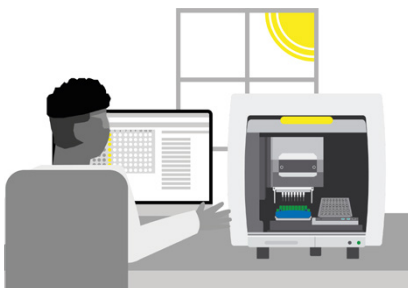


Dip and read biosensors are  
ready for your experiment



Visit our **online store** to get more information about our selection of biosensor tips, consumable offerings, and to place orders.





**Step 3:** Load the sample plate and biosensors, and walk away.

**No Prep. No Cleaning. Just Run.**

**Step 4:** Run the experiment

- Non-destructive measurement
- No loading times or cleaning between runs
- The eight-channel setup increases the number of conditions tested per unit time
- Up to 16 hours unattended run time for flexible experiments

**Step 5:** Analyze the data

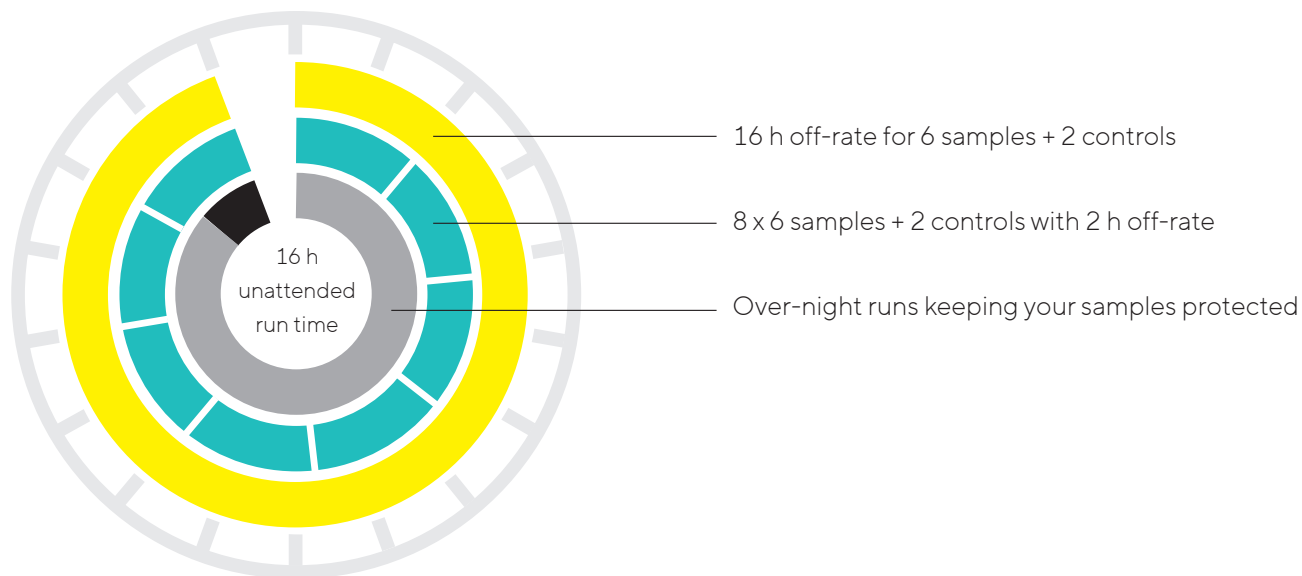
**Intuitive software for setup and analysis**

Octet® CFR software and our Octet® GxP Server enable data acquisition and data analysis in laboratories working under GMP, GLP and 21 CFR Part 11 regulations. They also provide necessary technical administrative features for compliance with FDA regulations. An additional Software Validation Package is available to validate data calculations produced by the Octet® software.

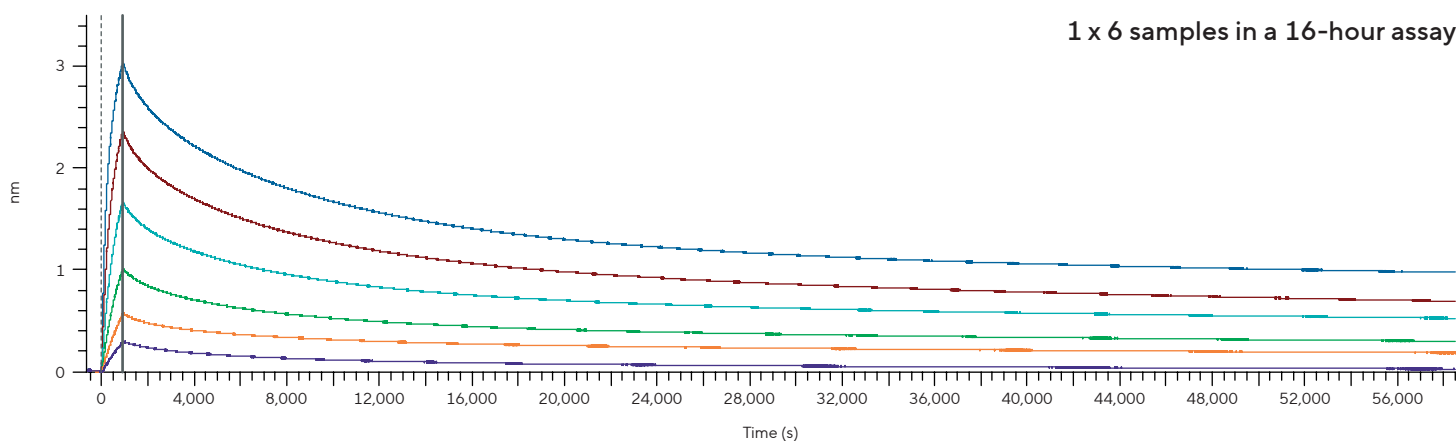
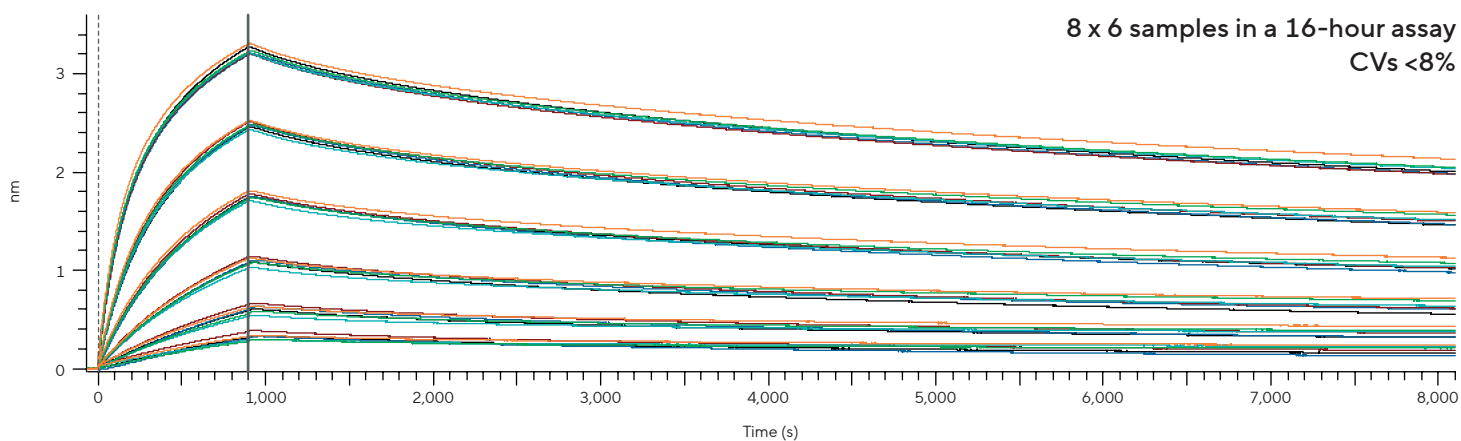


# Precision Through Evaporation Control

The new Octet® AE Microplate Evaporation Cover for 96-well microplates minimizes evaporation across all wells to maintain consistent sample concentrations during extended or sensitive BLI assays. Preserving sample integrity throughout the experiment ensures greater data accuracy and reproducibility, even in long-duration kinetic studies.



## Long-term Assay Precision In The Octet® R8e



# Octet® R8e Brings High-Performance Label-Free Analysis: Fast, Sensitive, Scalable

## Octet® R8e Advantages



### Best-In-Class Sensitivity

Higher signal-to-noise ratio for precise detection of low molecular weight and low concentration analytes



### Fast Data Acquisition

Improved data acquisition feature to ensure the accurate capture of rapid kinetics



### Evaporation Control

Maintains analyte concentrations for 16+ hours, boosting data accuracy and precision



### Walk-Away Time

Extends hands-free operation for 16+ hours, maximizing system usage and boosting lab efficiency



### Reduced Sample Volume

Achieve reliable results with as little as 40 µL, conserving precious samples and cutting costs



### 384-Well Plate Compatibility

Supports high-sample capacity workflows, maximizing lab efficiency

## Foundational Octet® BLI Advantages



### Fast Time to Results

An 8-Channel BLI system can quantitate 96 samples in 30 minutes



### Easy to Use

The Octet® system features a streamlined user interface that minimizes training time so you can focus less on setup and more on generating insights



### Fluidic Free Sampling

Offers true walk-in, walk-out operation with no fluidics to clean or maintain, saving operator time, reducing system downtime, and eliminating sample contamination risks



### Robust, Low Maintenance System

Run your experiments round the clock with minimal instrument downtime



### Crude Sample Compatibility

Only molecules that bind or dissociate from the biosensor surface produce a signal. No time-consuming sample pre-treatment or purification required



### Recover and Reuse Samples

Samples remain intact after analysis and can be reused for additional experiments. Get more data from the same sample

# Technical Specifications

Description	Specification
Detection technology	Biolayer Interferometry (BLI)
Biosensor type	Disposable, single-use fiber optic biosensors with optional reuse by regeneration and re-racking in the sensor tray
Information provided	<ul style="list-style-type: none"><li>▪ Yes/No binding</li><li>▪ Kinetic and affinity analysis (<math>k_{\text{on}}</math>, <math>k_{\text{off}}</math>, <math>K_{\text{D}}</math>)</li><li>▪ Specific and selective detection of molecules, even in crude samples</li><li>▪ Relative and absolute quantitation of specific proteins in crude matrices or purified samples</li><li>▪ Relative potency (<math>\text{EC}_{50}</math>) and Inhibition (<math>\text{IC}_{50}</math>) analysis</li></ul>
Sample types	Proteins, antibodies, peptides, DNA, RNA, liposomes, viruses, and VLPs in various media, including serum, buffers containing DMSO, periplasmic fractions, bacterial cells, nanoparticles, untreated cell culture supernatants, and crude cell lysates
Number of spectrometers	8
Maximum simultaneous reads	8
Data collection rates	Enhanced to Standard Data Collection rates
Sample position and format	One standard 96-well, 384-well flat-bottom microplate, or 384-well tilted-bottom microplate
Minimum sample volume	40 $\mu\text{L}$
Orbital flow capacity	Static or 100–1,500 rpm
Analysis temperature range	15–40 $^{\circ}\text{C}$
<b>Kinetics</b>	
Workflow	Up to 8 assays in parallel
Molecular weight detection	>100 Da
Association rate constant	$10^1 - 10^7 \text{ M}^{-1}\text{s}^{-1}$
Dissociation rate constant	$10^{-6} - 0.1 \text{ s}^{-1}$
Affinity $K_{\text{D}}$ constant	1 mM – 10 pM
Baseline noise	Typically < 0.001 nm (RMS)
Baseline drift	<0.1 nm per hour
<b>Quantitation</b>	
Workflow	Up to 8 assays in parallel
Direct quantitation range for ProA biosensor	0.01 - 4,000 $\mu\text{g/mL}$



# Compliance

Compliant with	CE, FCC, ICES, KC, UKCA, RCM
Safety	IEC/EN/UL/CSA-C22.2 61010-1 IEC/EN/UL/CSA-C22.2 61010-2-010:P19
Electromagnetic compatibility (EMC)	EN/IEC 61326-1, ICES-003, FCC Part 15 KS C 9811, KS C 9610-6
Environmental	RoHS, EN IEC 63000, TSCA

# Ordering Information

Product	Part No
<b>Octet® R8e System</b> Includes: <ul style="list-style-type: none"><li>▪ Octet® R8e Instrument</li><li>▪ Instrument Controller and monitor</li><li>▪ Four licenses of Octet® Discovery and Analysis Software</li><li>▪ Installation kit</li><li>▪ 1 Box of Octet® AE Evaporation Covers</li></ul>	<b>Octet-R8e</b>
<b>Octet® R8e IQOQ kit</b> Includes: <ul style="list-style-type: none"><li>▪ Octet® R8e IQ/OQ Kit and Manual</li></ul>	<b>41-0332</b>
<b>Octet® R8e PQ-Q kit</b> Includes: <ul style="list-style-type: none"><li>▪ Octet® R8e Performance Qualification Kit and Instructional Manual for Quantitative Applications</li></ul>	<b>18-5175</b>
<b>Octet® R8e PQ-K kit</b> Includes: <ul style="list-style-type: none"><li>▪ Octet® R8e Performance Qualification Kit and Instructional Manual for Kinetic Applications</li></ul>	<b>18-5176</b>
<b>Octet® R8e PQ kit Bundle</b> Includes: <ul style="list-style-type: none"><li>▪ Octet® R8e Performance Qualification Kit and Instructional Manual for Kinetic Applications</li><li>▪ Octet® R8e Performance Qualification Kit and Instructional Manual for Quantitative Applications</li></ul>	<b>18-5174</b>
<b>Octet R8e, GxP Kit</b> Includes: <ul style="list-style-type: none"><li>▪ Octet® R8e IQ/OQ Kit and Manual</li><li>▪ Octet® R8e Performance Qualification Kit and Instructional Manual for Kinetic and Quantitative Applications</li><li>▪ Four licenses of Octet 21 CFR Part 11 Software</li><li>▪ Octet® Software Validation Package</li></ul>	<b>18-5177</b>
<b>Octet® AE Evaporation covers, Box of 10</b>	<b>18-5152</b>



# Octet<sup>®</sup> R8e BLI System

## Discover with Accuracy: Enhanced BLI Analytics With New Heights of Sensitivity

Unlock the potential of your research by extending enhanced BLI to more projects, enabling you to move faster and make better decisions. This way, you can leave the lab knowing your work is complete and your life outside is waiting. With confidence in your work, you can enjoy the freedom that follows.

### Contact us for a demo

Our team of application specialists helps your team to get set up, with real samples, in a matter of days. Collaborate and understand the simplicity of the workflow, right in your own laboratory.



## **Germany**

Sartorius Lab Instruments GmbH & Co. KG  
Otto-Brenner-Strasse 20  
37079 Goettingen  
Phone +49 551 308 0

## **USA**

Sartorius Corporation  
3874 Research Park Drive  
Ann Arbor, MI 48108  
Phone +1 734 769 1600



**For further information, visit**

[www.sartorius.com](http://www.sartorius.com)