

# Discover Next-gen High Throughput Biolayer Interferometry with Gator Pivot

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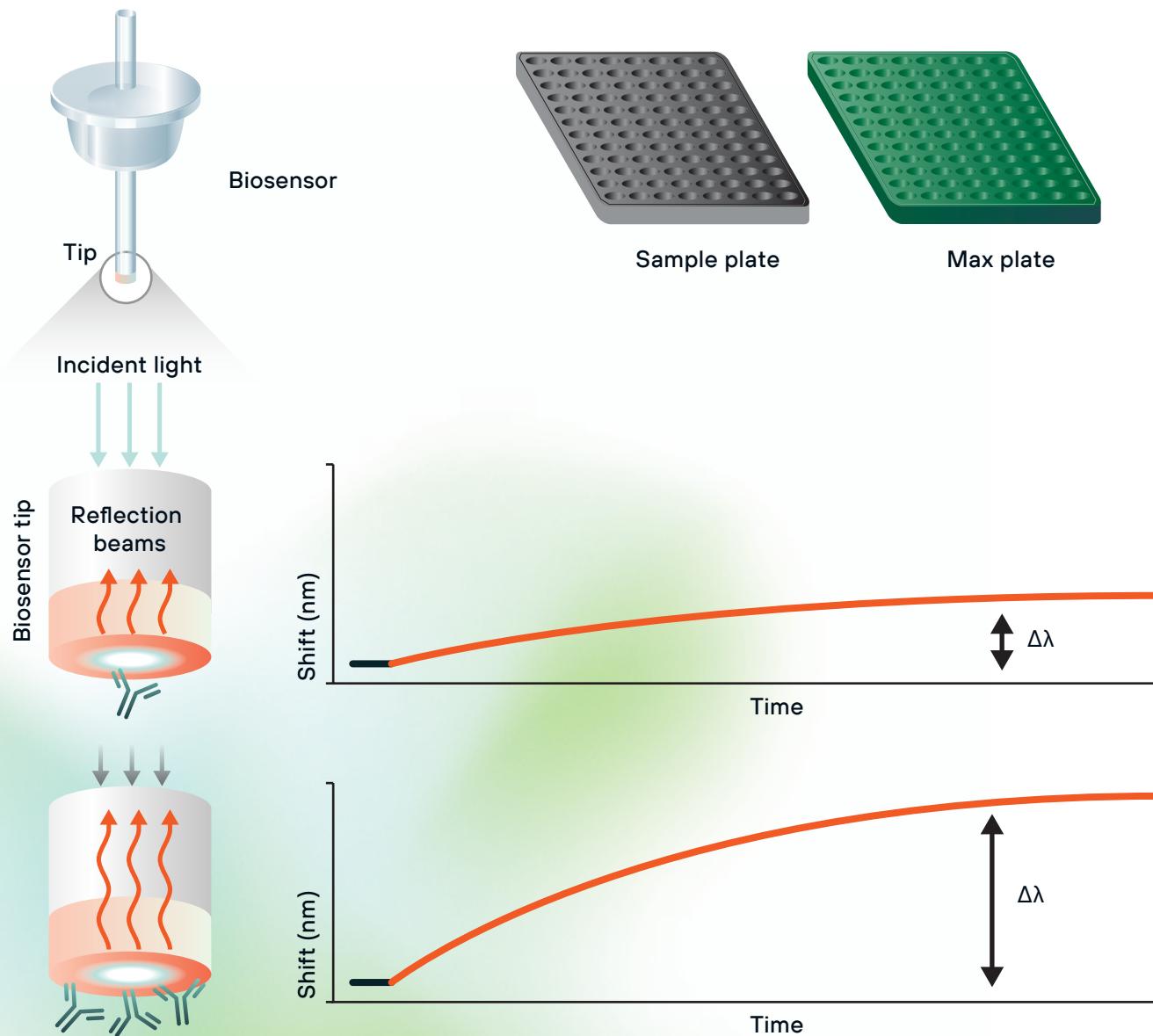
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# What is BLI?

Biolayer interferometry (BLI) is a label-free detection method based on reflection of white light from the surface of a biosensor tip.

It analyzes the changes in interference pattern of white light reflected from the tip when biomolecules bind to it. This change is recorded in real time and is expressed as nanometer shift. It is proportional to the number and size of biomolecules bound to the tip.



# One Tool. Many Answers.

The Gator biolayer interferometry system is ideally suited for studying biomolecular interactions and to support multiple stages of therapeutic development in biopharma.

The Gator® Pivot system is designed for real-time analysis of biomolecules and can be widely applied in antibody screening, quantitation and epitope binning. It also enables AAV and other viral particle analytics.



## Early discovery

- Antibody titer determination
- Yes/no binding to target antigen
- Isotyping
- Epitope binning
- Cross-reactivity testing
- Assay development
- Off-rate ranking
- Binding constant determination

## Early development

- Lead optimization
- Lead characterization
- Detailed kinetic characterization
- Epitope binning
- Affinity maturation

## Lead antibody

- Binding kinetics
- Activity assay
- Stability study

# Gator Pivot Features

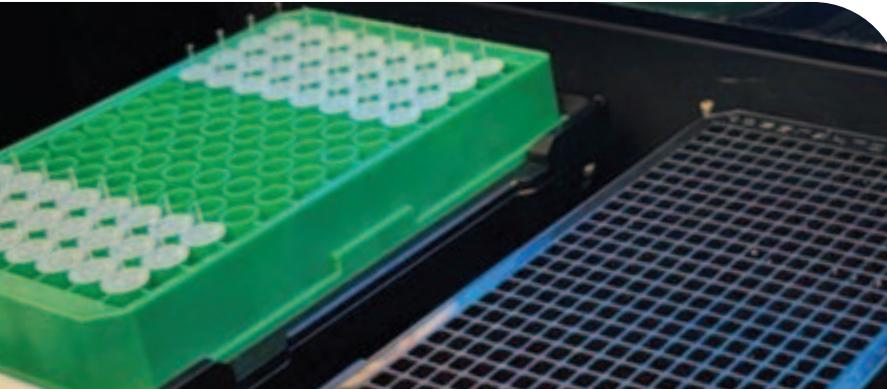
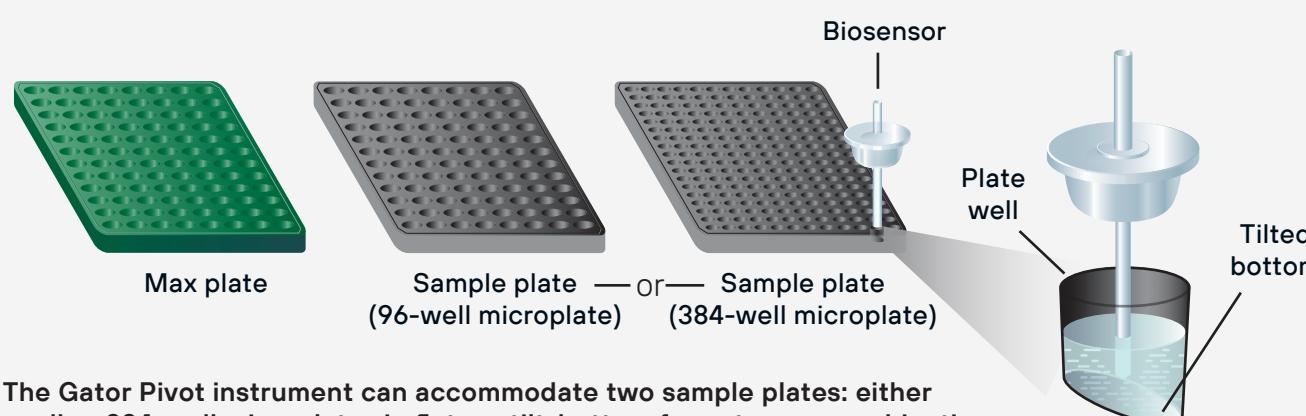
The Gator Pivot instrument is a versatile platform featuring integrated temperature and evaporation control for rapid, precise, and automated analysis.

## Highlights

**16x** 16 Spectrometers enable high frequency parallel measurement of up to 16 samples

 Two sample plate positions enable automated data acquisition for 816 samples per batch

 With next-gen biosensors, the Gator Pivot system provides accurate, high sensitivity data



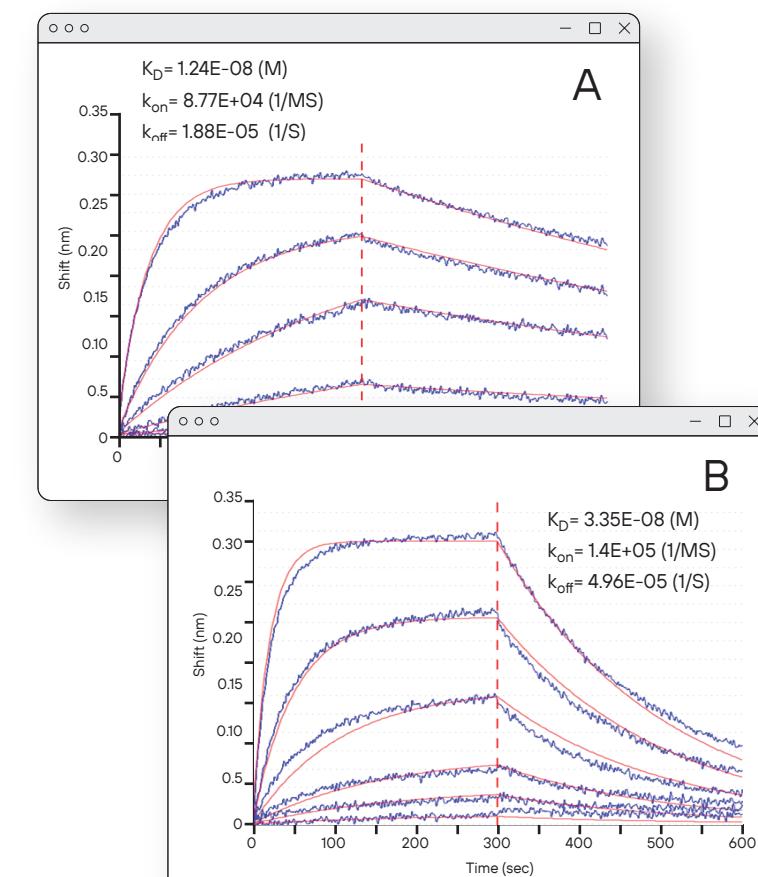
**16x**  
parallel data acquisition

# Binding Kinetics

The Gator Pivot system can be utilized to determine the kinetics of a drug molecule binding to its target.

Association rates ( $k_{on}$ ), dissociation rates ( $k_{off}$ ), and dissociation constants ( $K_D$ ) can be determined for antigen-antibody interactions with or without the use of labeled reagents. The ultra-stable baseline and extended temperature range further enhance the quality of high affinity kinetic data.

The Gator® Pivot system enables rapid, primary screening of antibody libraries. Off-rate ranking in crude media and complete binding characterization of a purified antigen-antibody binding pair can be accurately determined using a variety of different biosensors and assay configurations.



(A) Antigen-antibody interactions at 20°C  
(B) Antigen-antibody interactions at 40°C

## Highlights

**16x** Parallel determination of 16x different binding reactions

 Rapid binding constant determination within 10 minutes

 Customizable analyte concentration ranges for accurate results

 Wide range of biosensors to support multiple kinetic assay configurations

# Antibody Quantitation

The ability of the Gator Pivot enables simple setup for analysis of antibody titers in various cell culture supernatants to read 16 samples in parallel.

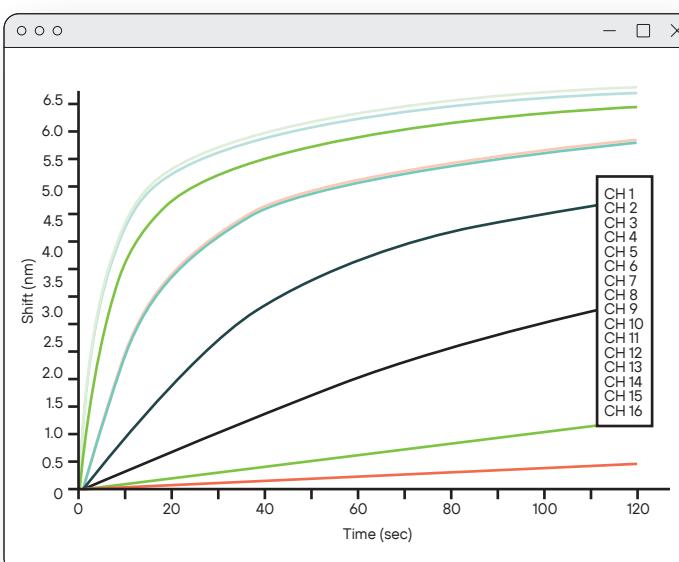
## Highlights

↔ 5-log dynamic range for titer determination

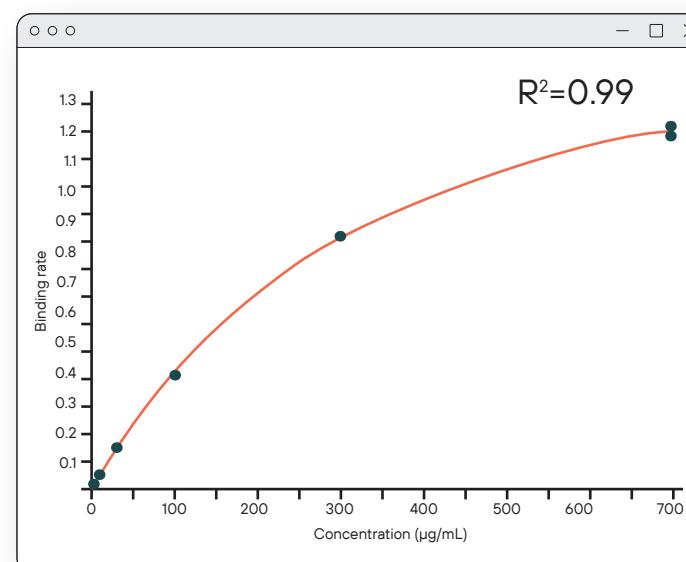
16x 16 simultaneous measurements

816x Up to 816 samples per batch

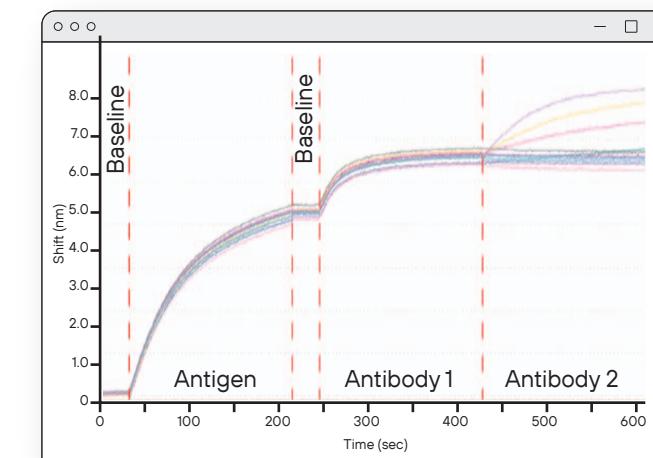
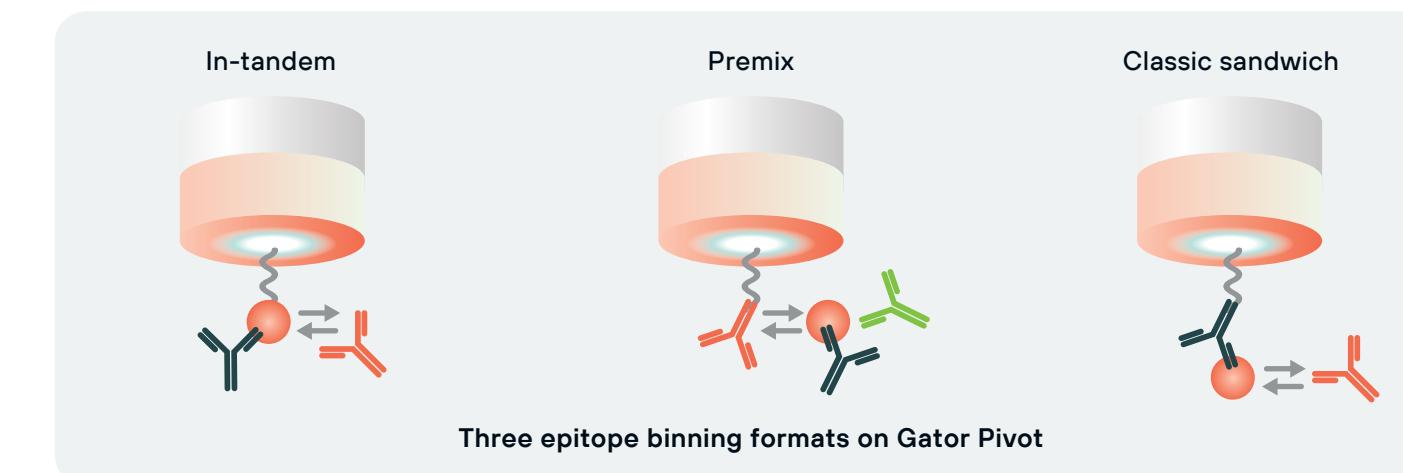
Up to  
**816**  
samples per  
batch



Accurate and precise analysis of human IgG samples using Gator Bio Protein A Probes



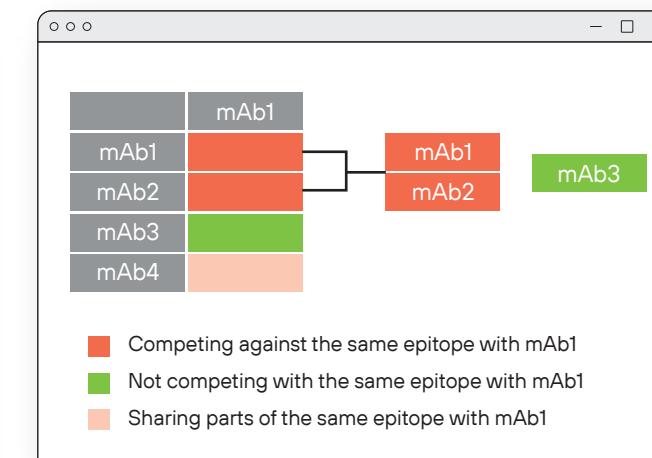
# Epitope Binning



20 x 20 mAb competition matrix performed in less than 5 hours

The Gator® Pivot system can complete up to 20 x 20 epitope binning in a single automated or classic sandwich assay in just 5 hours.

A series of Gator probes (HFC, MFC, SA) can be used for epitope binning. This experiment can be set up in in-tandem, premix and classic sandwich formats. Moreover, most biosensors and materials are reusable, significantly saving experimental costs.



## Highlights

16 parallel competitive reactions in 10 minutes

Single 20 x 20 EP assay in less than 5 hours

Comprehensive suite of biosensors for both sandwich and in-tandem formats

# Gator Instruments

## The Gator Family Portfolio

Gator® Bio's comprehensive BLI instrument portfolio, a suite of cutting-edge systems designed to empower researchers to get deeper insights into biomolecular interactions, each meticulously engineered to deliver high performance.



**Gator Pilot**

- 4-channel simultaneous read
- 96 well format
- 40 samples/batch



**Gator Prime**

- 8-channel simultaneous read
- 96 or 384 well format
- 168 samples/batch



**Gator Plus**

- 8-channels simultaneous read
- 96 or 384 well format
- 468 samples/batch



**Gator Pivot**

- 16-channel simultaneous read
- Flexible 2 plate format (96 or 384-well plates)
- 816 samples/batch



**Gator Pro**

- 32-channel simultaneous read
- Flexible 3 plate format (96 or 384-well plates)
- 1152 samples/batch

Up to  
**1,152**  
samples per  
batch

Throughput

# Specifications

## Gator Pivot



General	
Detection	Biolayer Interferometry
Sample Microplate	96-well or 384-well format
Sample type	Proteins, antibodies, peptides, nucleic acids, liposomes, viruses, and small molecules
Maximum sample capacity	816
Software	Integrated
Simultaneous reads	16
Spectrometers	16
Acquisition rate	2, 5, and 10 Hz
Dimension - H x W x D (cm)	95 x 87 x 79
Weight	130 kg
Orbital flow	Static, 100 - 2000 rpm
Analysis temperature range	15°C to 40°C
Kinetics	
Analysis time	Real-time kinetic binding from 5 min to 4 hr
Baseline noise (RMS)	≤ 4 pm (≤ 1 pm in high sensitivity mode)
Baseline drift	≤ 0.1 nm/hr
Association rate ( $k_{on}$ )	10 <sup>1</sup> to 10 <sup>7</sup> M <sup>-1</sup> s <sup>-1</sup>
Dissociation rate ( $k_{off}$ )	10 <sup>-6</sup> to 10 <sup>-1</sup> s <sup>-1</sup>
Affinity constant ( $K_D$ )	1 mM - 10 pM
Molecular weight	>150 Da (Lower MW possible with optimization)
Quantitation	
Analysis time	16 samples in 2 min
Quantitation range (Protein A Biosensor)	0.02 – 2000 µg/mL
Quantitation precision (Protein A Biosensor)	CV < 10%
Epitope binning	
Analysis time	Up to 20x20 in 5 hr
Pairwise fashion	In-tandem, classic sandwich and pre-mix
Binning capacity	20x20

# Gator Probes

## Applications & Specifications

Gator Probes	Applications	Quantitation	Kinetics	Epitope binning	Dynamic range (µg/mL)	Reusable
<b>ANTIBODY BIOSENSORS</b>						
Pro A	IgG titer	●	●	0.02 - 2000	●	
Pro G	IgG titer	●	●	0.02 - 2000	●	
Pro L	IgG Titer using kappa-light chain	●	●	0.02 - 2000	●	
HFC	Human IgG characterization by human IgG Fc capture		●	●		
HFC Gen II	Second-generation HFC probes with higher affinity capture and better regenerability	●	●	●	0.3 - 6000	●
MFC XT	Capture and analysis of Mouse IgG (IgG1, IgG2a, IgG2b, IgG3) and Fc-fusion proteins	●	●	●	0.025 - 10000	●
Anti-Rabbit Fc	Rabbit IgG characterization by rabbit IgG Fc capture	●	●	●	0.05 - 4000	
Anti-FAB	F(ab), F(ab)2 characterization by CH1 capture	●	●	●	0.3 - 3000	●
🔗 IgM	Human IgM titer/characterization	●	●		0.4 - 300	●
Anti-VHH	Camelid anti-VHH characterization	●	●		0.05 - 10	●
<b>PURIFICATION TAGS</b>						
Anti-His	Captures C- and N-terminal 6-His and 8-His tagged proteins	●	●	●	~1 - 100	●
Ni-NTA kit	Ni-NTA capture surface for purified His-tagged proteins	●	●	●	~1 - 100	●
🔗 Strep-Tactin XT	Captures win-strep-tagged proteins (seq: SAWSHPQFEKGGGGGGGGSAWHPQFEK)	●	●	●	~0.02 - 20	●
Anti-GST	Captures GST-tagged proteins	●	●	●	0.5 - 300	●
Anti-FLAG	Captures FLAG-tagged proteins		●			
<b>STREPTAVIDIN SUITE</b>						
SA	Streptavidin surface. Captures biotinylated molecules	●	●			
🔗 SA XT	High sensitivity SA probe for low Mw (>1 kDa) and high Mw (<2MDa) analytes	●	●			
🔗 SMAP	High sensitivity SA for small molecule and small peptide analytes.	●				
🔗 FlexSA kit	Re-activatable SA biosensor kit	●				●
<b>CELL &amp; GENE THERAPY</b>						
AAV/AAV9	Measures intact AAV viral particle titer	●	●		7E <sup>9</sup> - 1E <sup>14</sup> vp/ml	
🔗 HSAAV/AAV9 kit	Measures low concentration intact AAV viral particle titer	●			1E <sup>7</sup> - 1E <sup>9</sup> vp/ml	
🔗 AAV Ratio kit	Determine AAV empty/full capsid ratio	●			5 - 100% full	
🔗 Anti-PEG	Captures PEGylated proteins/LNPs		●			
<b>USER-CUSTOMIZED CHEMISTRIES</b>						
AR	Amine coupling surface ready for EDC-NHS coupling	●				
APS	APS surface for hydrophobic ligand capture	●				
🔗 Custom	Customized to your specifications	●	●	●	Varies	Varies

🔗 Only available with Gator® Bio.