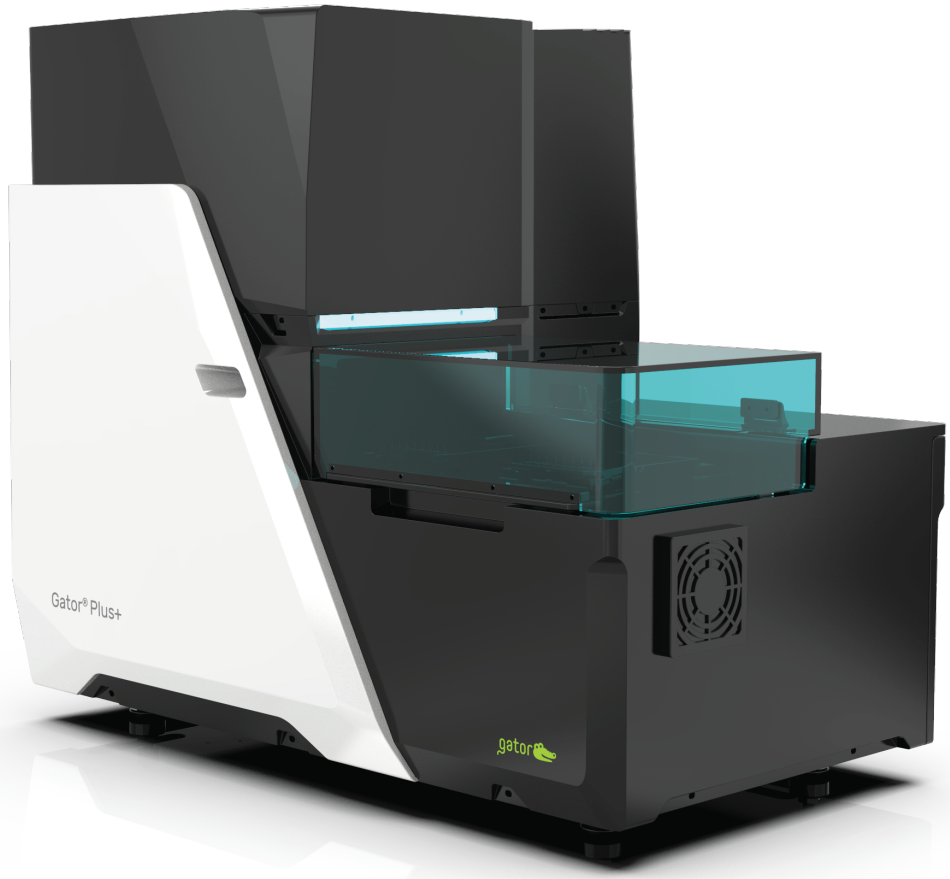
GATORBIO.COM

Discover Next-gen Biolayer Interferometry with Gator Plus+

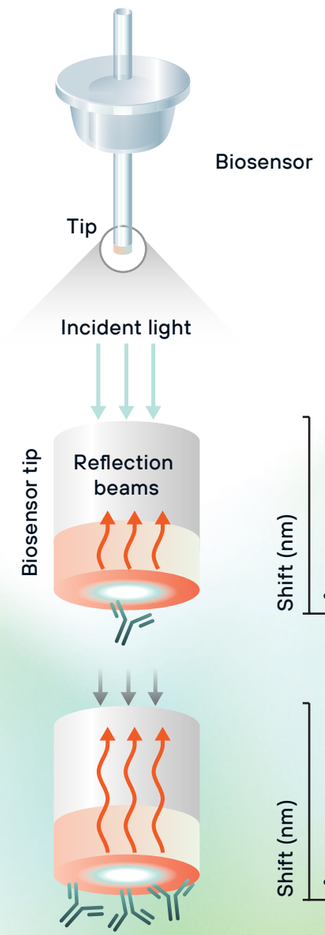


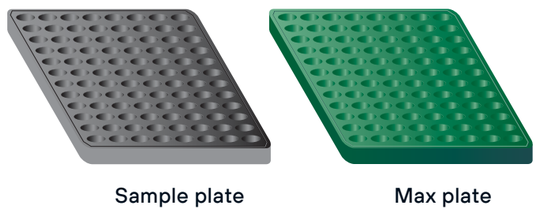
Gator Plus+

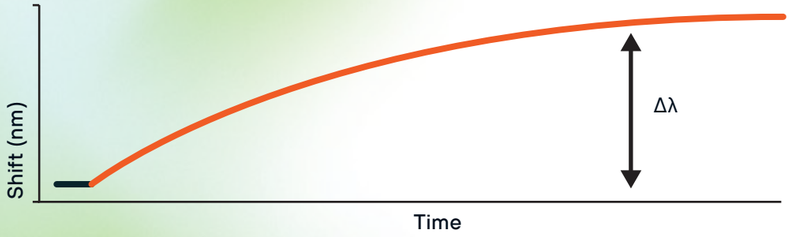
What is BLI?

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 in academic research and to support multiple stages of therapeutic development in biopharma.

The Gator® Plus+ 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

Main Features

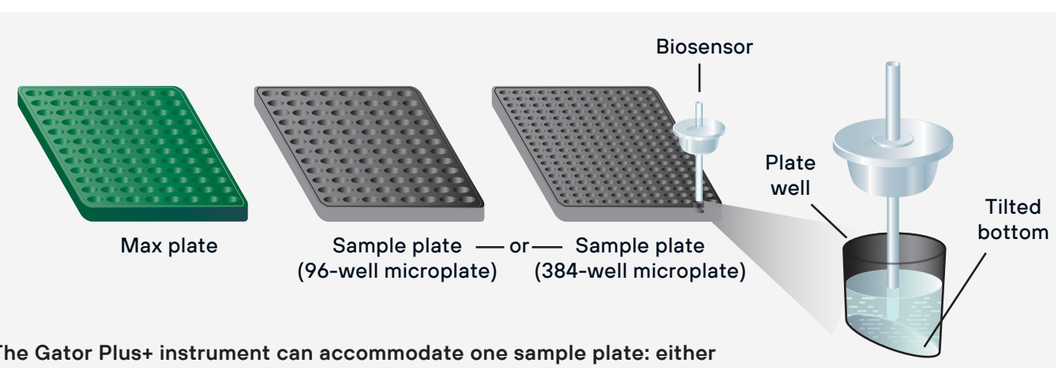
Gator® Plus+ is an advanced Biolayer Interferometry (BLI) system. Its superior stability and flexible assay setup expand the capabilities of traditional BLI applications.

Highlights

8 Spectrometers enable high frequency parallel measurement of up to 8 samples.

Single sample plate enables automated data acquisition for 456 samples per batch.

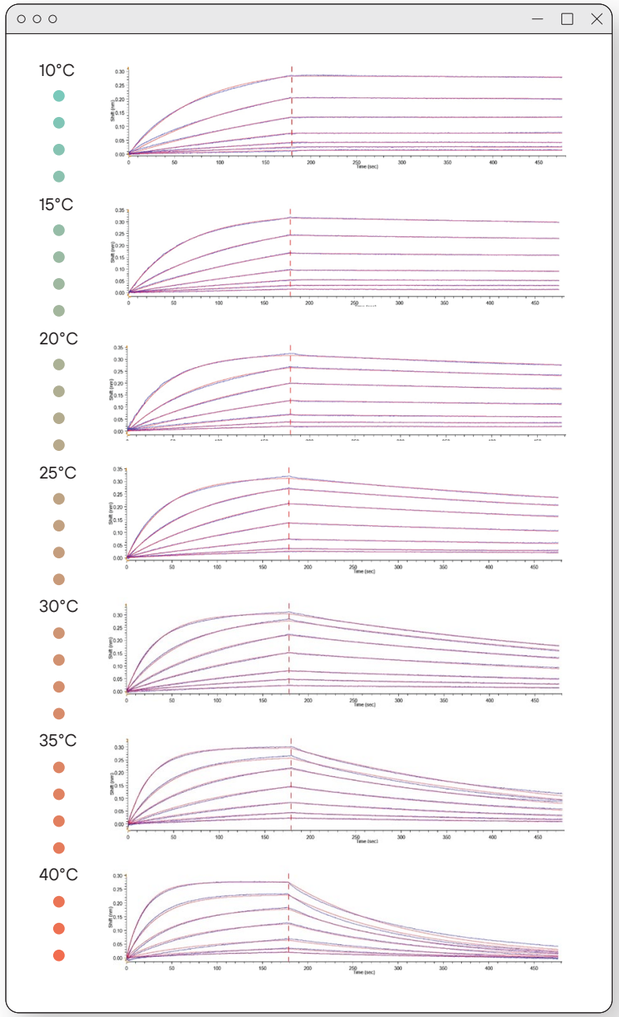
With Gator Bio next-gen biosensors, the Gator Plus+ system provides accurate, high sensitivity data



The Gator Plus+ instrument can accommodate one sample plate: either 96-well or 384-well microplates in flat- or tilt-bottom formats. Additionally, it has a designated space for biosensor placement.

Kinetic Characterization

Gator Plus+ provides stable baselines for pM to mM affinities across a 10°C to 40°C range. Operating as low as 10°C stabilizes sensitive proteins, captures fast kinetics, and reduces reagent evaporation. Advanced system control minimizes baseline drift, ensuring precise analysis of delicate interactions across a wide molecular weight range.



Highlights

Binding constant determined within 10 minutes

Easy to customize assay and fine-tune concentration ranges of analyte to get accurate binding constants

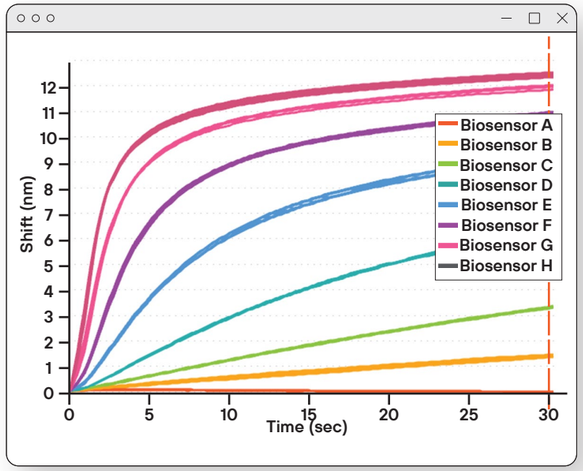
Wide range of biosensor choices to determine binding kinetics several ways

Temperature	k_{off}(1/s)	k_{on}(1/Ms)	KD(M)
10°C	3.93E-05	2.66E+05	1.48E-10
15°C	1.89E-04	3.27E+05	5.80E-10
20°C	4.51E-04	4.48E+05	1.01E-09
25°C	9.40E-04	4.57E+05	2.06E-09
30°C	1.81E-03	5.65E+05	3.20E-09
35°C	3.36E-03	7.31E+05	4.59E-09
40°C	7.44E-03	8.77E+05	8.49E-09

A dilution series of PD-1 binding to anti-PD-1 was performed at seven different temperatures. Global fit analysis yielded the kinetic parameters shown in the table.

Robust Regeneration for Consistent Quantitation

Standard curve of mIgG (13.72 ug/mL to 10 mg/mL) using MFC XT probes. Ten consecutive measurements with regeneration in graph shown. Calculated binding rates, SD, and CV are shown in the table.

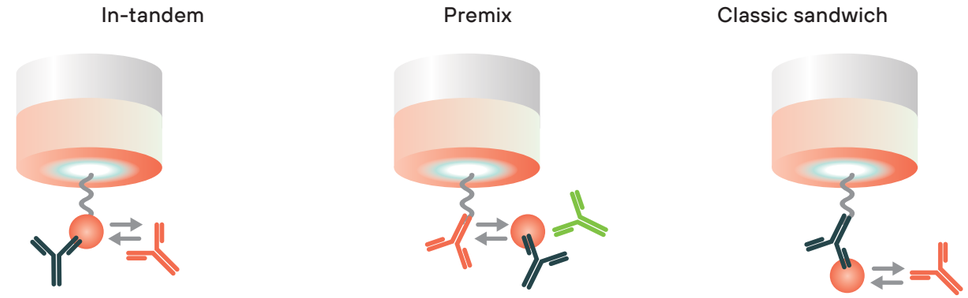


Up to
456
samples per batch

n=10	Binding rate		
Standard (µg/mL)	AVG	SD	CV
10000	5.676	0.169	3.00%
3333.33	4.171	0.095	2.30%
1111.11	2.388	0.023	1.00%
370.37	1.085	0.01	0.90%
123.46	0.404	0.003	0.60%
41.15	0.142	0.001	0.90%

Standard curve for mouse IgG binding to Gator MFC XT Probes

Epitope Binning



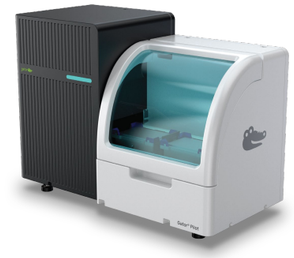
Three epitope binning formats on Gator Plus+

16x16 mAb competition matrix performed in less than 7 hours

Gator Instruments

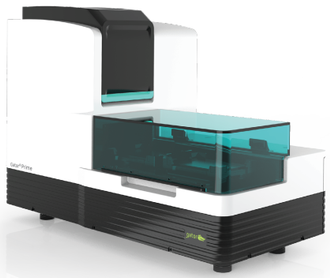
The Gator Family Portfolio

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.



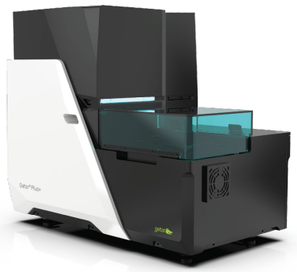
Gator Pilot

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



Gator Prime

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



Gator Plus / Plus+

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

Gator Pivot

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

Gator Pro

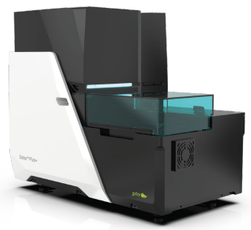
- 32-channel simultaneous read
- Flexible 3 plate format (96 or 384- well plates)
- 1152 samples/batch

Throughput

Up to 1,152 samples per batch

Specifications

Gator Plus+



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	456
Software	Integrated
Simultaneous reads	8
Spectrometers	8
Acquisition rate	2, 5, and 10 Hz
Dimension - H x W x D (cm)	63 x 74 x 44
Weight	60 kg
Orbital flow	Static, 100 - 2000 rpm
Analysis temperature range	10°C to 40°C

Kinetics	
Analysis time	Real-time kinetic binding from 5 min to 4 hr
Baseline noise (RMS)	≤ 4 pm
Baseline drift	≤ 0.1 nm/hr
Association rate (k_{on})	10^{1} to 10^{7} M^{-1} s^{-1}
Dissociation rate (k_{off})	10^{-6} to 10^{-1} s^{-1}
Affinity constant (K_D)	10 mM - 1 pM
Molecular weight	>150 Da (Lower MW possible with optimization)

Quantitation	
Analysis time	8 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 16X16 in 7 hr
Pairwise fashion	In-tandem, classic sandwich and pre-mix
Binning capacity	16x16

Gator Probes

Applications & Specifications

Gator Probes	Applications	Quantitation	Kinetics	Epitope binning	Dynamic range (µg/mL)	Reusable
ANTIBODY BIOSENSORS						
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	●
PURIFICATION TAGS						
Anti-His (HIS) XT	Captures His-tagged proteins with high affinity	●	●	●	0.2 - 1000	●
Anti-His	Captures C- and N-terminal 6-His and 8-His tagged proteins	●	●	●	0.25 - 500	●
Ni-NTA kit	Ni-NTA capture surface for purified His-tagged proteins	●	●	●	0.1 - 1000	●
Strep-Tactin XT	Captures Twin-Strep-tagged proteins (seq: SAWSHPQFEKGGGSGGGSGGSAWSHPQFEK)	●	●	●	~0.02 - 20	●
Anti-GST	Captures GST-tagged proteins	●	●	●	0.5 - 300	●
Anti-FLAG	Captures FLAG-tagged proteins		●			
STREPTAVIDIN SUITE						
SA	Streptavidin surface. Captures biotinylated molecules		●	●		
SA XT	High sensitivity SA probe for low Mw (>1 kDa) and high Mw (<2 MDa) analytes		●	●		
SMAP	High sensitivity SA for small molecule and small peptide analytes		●			
FlexSA kit	Re-activatable SA biosensor kit		●			●
CELL & GENE THERAPY						
AAVX/AAV9	Measures intact AAV viral particle titer	●	●		$7E^{9}$ - $1E^{14}$ vp/ml	
HS AAVX/AAV9 kit	Measures low concentration intact AAV viral particle titer	●			$1E^{7}$ - $1E^{9}$ vp/ml	
AAV Ratio kit	Determine AAV empty/full capsid ratio	●			5 - 100% full	
Anti-PEG	Captures PEGylated proteins/LNPs		●			
USER-CUSTOMIZED CHEMISTRIES						
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

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