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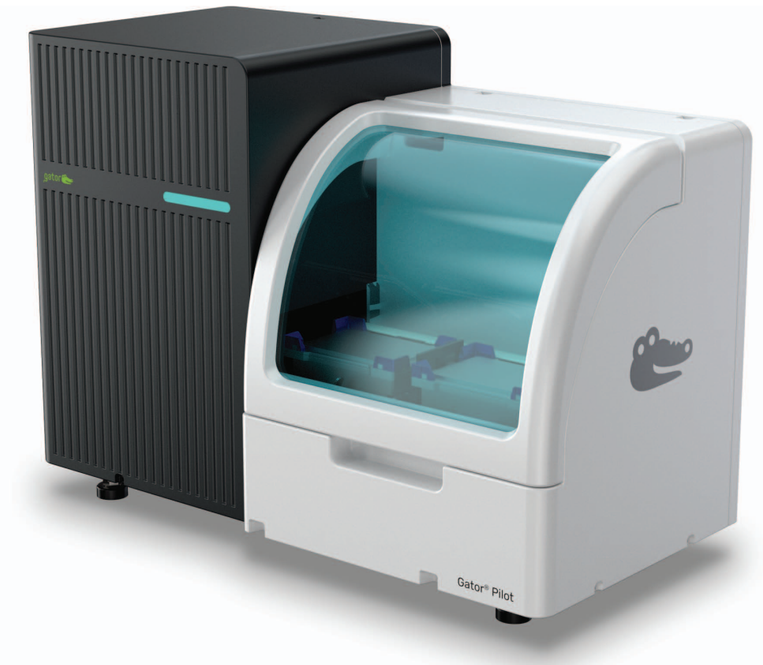
Discover Next-gen Biolayer Interferometry with Gator Pilot

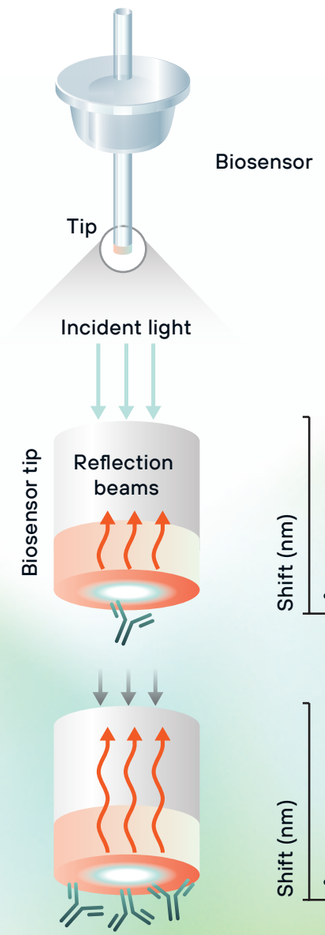


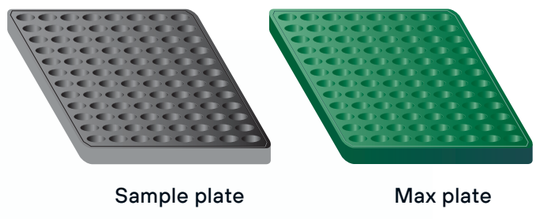
Gator Pilot

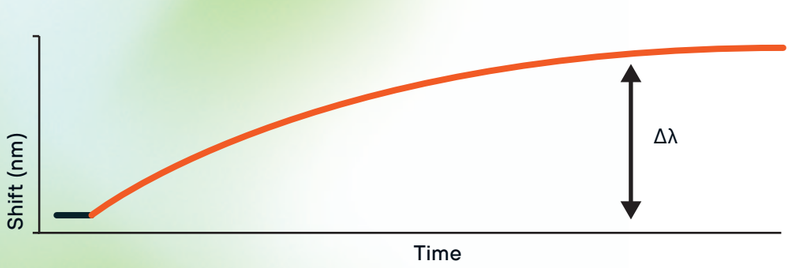
What is BLI?

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® Pilot 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

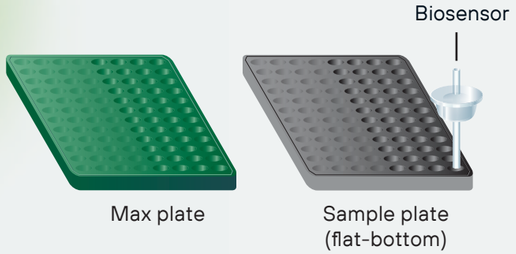
The Gator Pilot instrument is an entry level system designed for fast automated analysis.

Highlights

- 4 Spectrometers enable high frequency parallel measurement of up to 4 samples.
- Single sample plate enables automated data acquisition for 40 samples per batch.
- With Gator Bio next-gen biosensors, the Gator Pilot system provides accurate, high sensitivity data

The Gator Pilot instrument accommodates one 96-well microplate.

Another plate is reserved for biosensors placement.

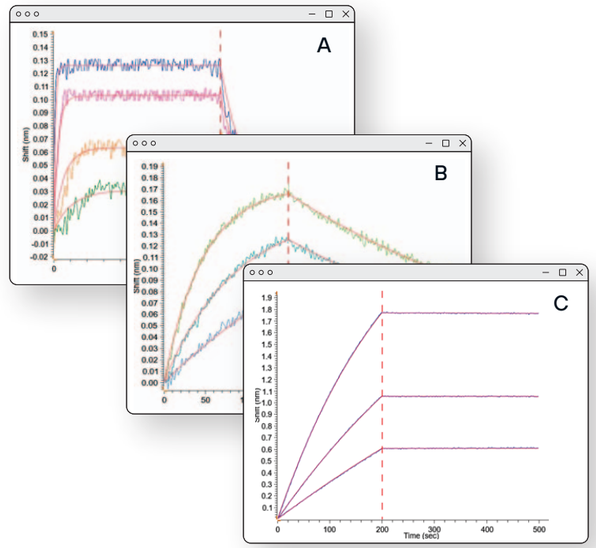


Binding Kinetics

The Gator Pilot 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 further enhances the quality of high affinity kinetic data.

With 4 parallel measurements, the Gator® Pilot system enables rapid, primary screening of antibody libraries. Off-rate ranking in crude media as well as complete binding characterization of a purified antigen-antibody binding pair can be accurately determined using a variety of different biosensors and assay configurations.



**(A) Protein – Small molecule interactions,
(B) Protein – Nucleic acid interactions,
(C) Protein – Peptide interactions**

Highlights

- 4x Parallel determination of 4x 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

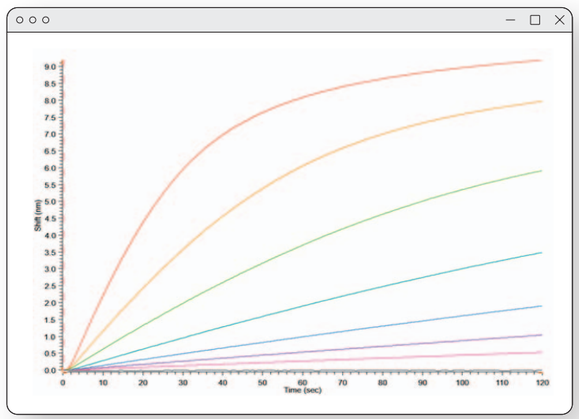
Antibody Quantitation

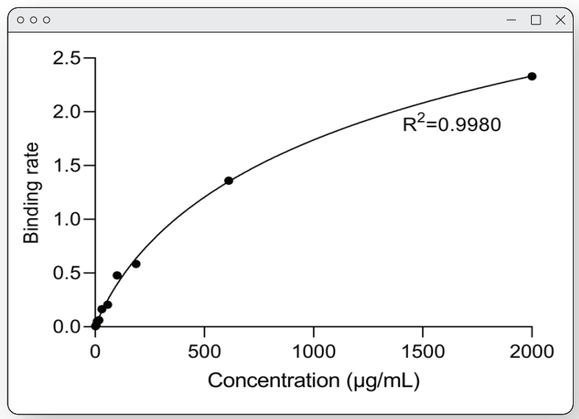
The ability of the Gator® Pilot enables simple setup for analysis of antibody titers in various cell culture supernatants to read 4 samples in parallel.

Highlights

- 5-log dynamic range for titer determination
- 4 simultaneous measurement
- Up to 40 samples per batch

Up to 40 samples per batch





Accurate and precise analysis of 40 human IgG samples using Gator Bio Protein A Probes

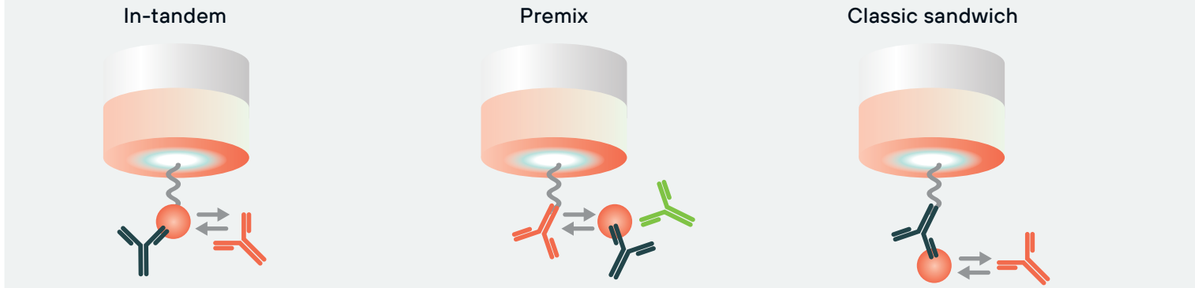
Epitope Binning

The Gator® Pilot system can complete up to 6 x 6 epitope binning in a single automated or classic sandwich assay in just 2 hours.

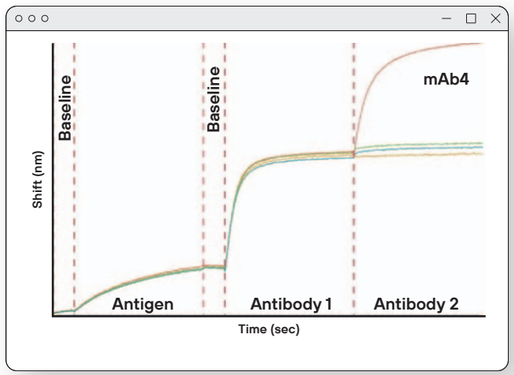
A series of Gator probes (HFC, MFC, SA) can be used for epitope binning. This experiment can be set up in in-tandem, premix and classic sandwich formats. Moreover, most biosensors and materials are reusable, significantly saving experimental costs.

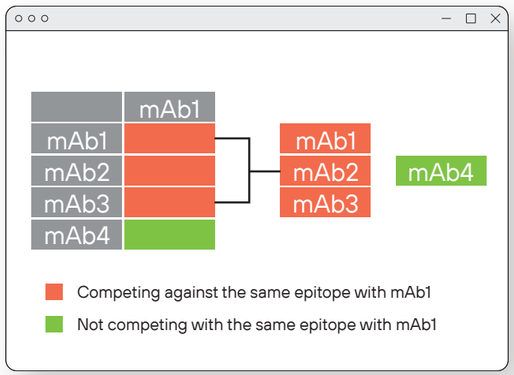
Highlights

- 4 parallel competitive reactions in 10 minutes
- Single 6 x 6 EP assay in less than 2 hours
- Comprehensive suite of biosensors for both sandwich and in-tandem format



Three epitope binning formats on Gator Pilot



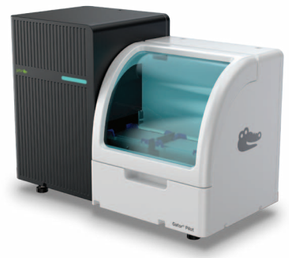


4 x 4 mAb competition matrix performed in less than 2 hours

Gator Instruments

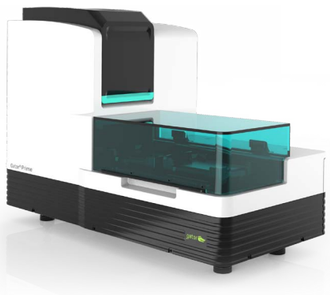
The Gator Family Portfolio

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.



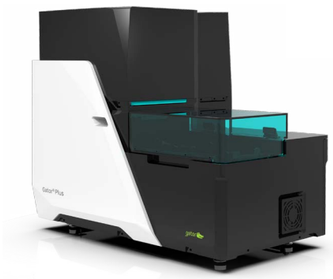
Gator Pilot

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



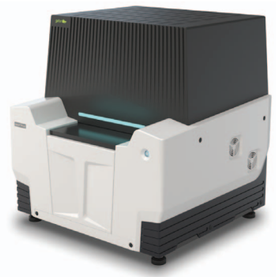
Gator Prime

- 8-channel simultaneous read
- 96 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

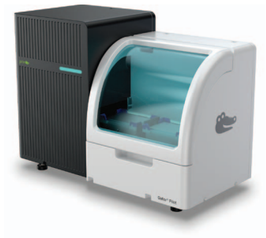
- 32-channel simultaneous read
- Flexible 3 plate format (96 or 384- well plates)
- 1152 samples/batch

Throughput

Up to 1,152 samples per batch

Specifications

Gator Pilot



General	
Detection	Biolayer Interferometry
Sample Microplate	96-well format
Sample type	Proteins, antibodies, peptides, nucleic acids, liposomes, viruses, and small molecules
Maximum sample capacity	40
Software	Integrated
Simultaneous reads	4
Spectrometers	4
Acquisition rate	2, 5, and 10 Hz
Dimension - H x W x D (cm)	50 x 67 x 32
Weight	31 kg
Orbital flow	100 – 1500 rpm
Analysis temperature range	Ambient plus 4°C to 40°C

Kinetics	
Analysis time	Real-time kinetic binding from 5 min to 4 hr
Baseline noise (RMS)	≤ 4 pm
Baseline drift	≤ 0.12 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)	1 mM - 10 pM
Molecular weight	>150 Da

Quantitation	
Analysis time	4 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 6x6 in 2 hr
Pairwise fashion	In-tandem, classic sandwich and pre-mix
Binning capacity	6x6

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	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: 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 (<2MDa) 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.