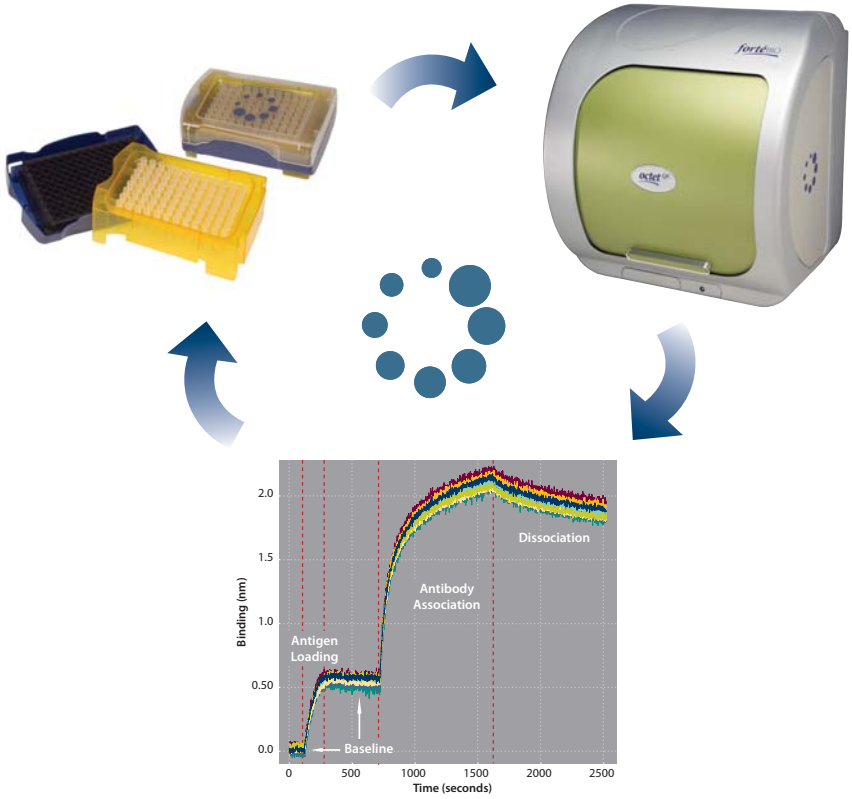
ForteBio's Octet System

Label-free, real-time detection of molecular interactions



KEY FEATURES OF BLI

- ***Label-free detection***
  BLI technology does not require the use of detection labels to measure the binding interaction at the biosensor surface.
- ***Real-time analysis***
  BLI continuously measures the protein binding at the biosensor surface throughout the interaction. Raw data is displayed in real time and the rapid analysis fits with process workflow.
- ***Minimal interference***
  BLI only detects binding at the sensor surface, so there is minimal interference from biological sample media. Proteins can be assayed in cell culture media or crude lysates without interference.
- ***Automated***
  Octet is automated to perform multi-step experimental protocols and complete data analysis. The system runs parallel, and up to 96 samples in unattended operation.
- ***Easy to use***
  Octet is fully automated and simple to operate. Flexible protocols using crude sample media are programmed in advance and do not require additional processing such as washing, centrifugation or long incubations to produce real-time results.

ForteBio's Octet systems incorporate a dedicated instrument for reading proprietary Bio-Layer Interferometry (BLI) plus a complete range of ready-to-use biosensors for real-time, label-free detection of protein: protein interactions.

By combining ready-to-use biosensors with sensitive optical detection, Octet can be broadly applied to a variety of research applications for protein:protein binding, affinity and kinetics. To meet your research and process development requirements, Octet is available in two configurations:

- Octet-Q: *quantitation only*
- Octet-QK: *quantitation and kinetics*

Contact ForteBio today to see what the Octet System can do for you!

fortéBIO™

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OCTET SYSTEM SPECIFICATIONS*

Technical Information and Specifications	
Detection technology	BioLayer Interferometry (BLI) based on fiber optic biosensors
Sensor type	Disposable, single-use sensors, application specific
Information provided	• Kinetic and affinity analysis (k_{obs}, k_a, k_d, K_D) • Kinetic screening for k_a or k_d • Binding specificity and binding cooperativity • Concentration monitoring of real-time binding (with no need for background subtraction) • Automated concentration determinations
Data presentation	• Plots displaying kinetic binding, equation fits, and residuals of fits • Tabulated kinetic data and data charts
Automation	96 samples unattended operation
Sample types include:	Proteins, antibodies, peptides (>900 da), serum containing media (up to 10%), DMSO containing buffers, periplasmic fractions, untreated cell culture supernatants and crude cell lysates
Sample volume	200 µL at final dilution; non-destructive testing, easily recovered
Sample plate	Standard, 96-well, black, flat-bottom microplate
Orbital flow capacity	Static, or 100–1500 rpm
Analysis temperature range	Ambient + 2 °C to 40 °C, 1 °C increments
Sample refractive index	Independent of index changes in biological samples
Instrument	
Dimensions (H x W x D)	18.6″ x 17″ x 20.8″ (47.5 cm x 43 cm x 53 cm)
Net weight	50 lbs (23 kg)
Mains requirement/ power	AC 100–240 V, 2.0–0.9 A, 50/60 Hz, single phase/120 w (240 peak)
Data Handling and Storage	
PC operating system	Windows XP
Interfaces	RS232, USB
Compliance	
Safety standards	CE, CSA

Kinetics	
Workflow	Up to 8 assays in parallel; 32 assays unattended operation
Analysis time per sample	Real-time kinetic binding experiments from 5 minutes to 3 hours
Association rate constant k_a	10^3 to 10^7 M^{-1} s^{-1}
Dissociation rate constant k_d	10^{-5} to 10^{-1} s^{-1}
Sample concentration	1 mM to 5 pM
Molecular weight detection	>900 da
Baseline noise	0.05 nm (RMS)
Baseline drift	< 0.1 nm/hour
Kinetic Screening	
Workflow	1–96 samples off-line batch immobilization for increased throughput
Analysis time per sample	Kinetic screening for 96 samples from 1 hour (depending on application)
Kinetic reporting	Rank ordering of clones for either k_a or k_d
Human IgG Quantitation	
Workflow	Up to 8 assays in parallel; 96 assays unattended operation
Analysis time per sample	Quantitation in <2 minutes for 8 samples, <20 minutes for 96 samples
Quantitation range	1 µg/ml–200 µg/ml
Precision range	1 µg/ml to 100 µg/ml (CV <10%) application specific
Specificity (Fc specific)	Minimal cross reactivity with mouse, bovine, rat, goat and rabbit. Binds all IgG subclasses, minimal cross reactivity to IgM and IgE

**All specifications are subject to change without notice.*

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