



# Octet RED96 System

*Superior quantitation and kinetics performance with increased cost efficiency*

## Key features

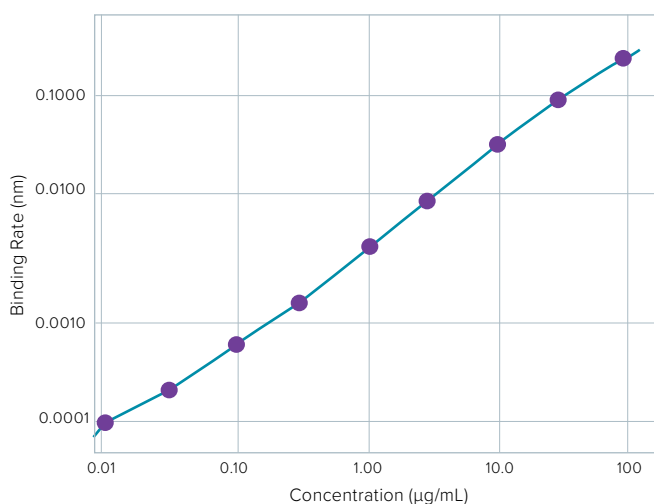
- 8-well simultaneous detection
- Small molecule, fragment analysis
- Protein and antibody characterization
- Re-rack and reuse biosensors
- Dip and Read™ simplicity

FortéBio's Octet® RED96 system is a multi-functional, label-free, real-time analysis instrument. It is ideal for rapidly measuring concentration of proteins and other biomolecules, measuring kinetics and affinity, and screening protein-protein and protein-small molecule interactions. The Octet RED96 system can be used for a wide range of analyses including IgG and other protein titer, bioprocess development, quality analysis, crude antibody screening, epitope binning/mapping, ligand binding assays, small molecule and fragment screening and

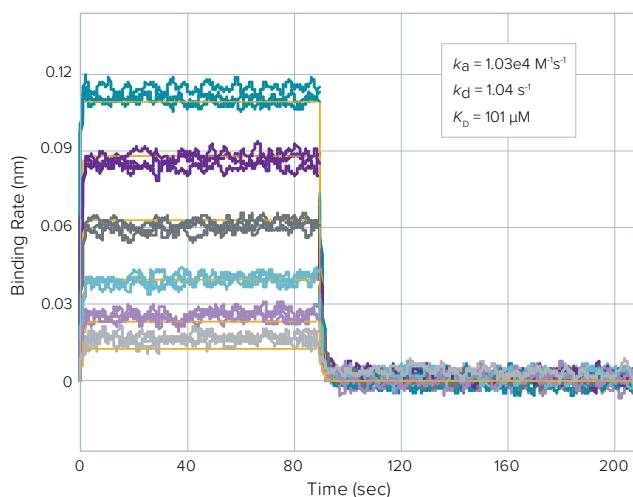
analysis, elucidating cell signaling mechanisms and infectious disease monitoring. Replace your stodgy HPLC, ELISA and other single-purpose microfluidics instruments for a unique, cutting-edge, protein analysis system that accelerates and simplifies your work.

## Concentration analysis

Measure concentrations of native proteins and other biomolecules by direct binding from solutions in a 96-well microplate in a simple, one-step, Dip and Read assay. Figure 1 shows a large dynamic range for direct binding from ng/mL to mg/mL combined with 8-well simultaneous detection gives you results in 32 minutes for 96 samples. With the biosensor re-racking feature, your Octet RED96 system extends the number of tests performed with a single biosensor. Run high sensitivity sandwich ELISA and other ligand binding immunoassays on the Octet system in just an hour or two! And, assays are hands-free!



**Figure 1:** Calibration curve for human IgG (hIgG) binding to Protein A biosensors obtained over 300 seconds at a shake speed of 1000 rpm. Shaking at 200 rpm for 120 seconds allows quantitation of 0.5–2000 µg/mL of hIgG.



**Figure 2:** Example data of Sulpiride (MW 341 D) binding to carbonic anhydrase II loaded on Super Streptavidin biosensors. Binding was performed in the presence of 0.5% DMSO at a shake speed of 1000 rpm. Triplicate measurements were performed at each concentration in a 2-fold dilution series.

## Kinetic analysis

The Octet RED96 system provides reliable kinetics information including  $k_a$ ,  $k_d$  and  $K_D$  for protein-biomolecule interactions all the way down to protein-small molecule interactions, as shown in Figure 2. With 8-channel simultaneous detection, the Octet RED96 system gives you the power of 8X12 multiplexing to analyze about 960 interactions in one experiment. Perform crude antibody screening and epitope binning for rapid development of biopharmaceutical drugs, or, screen more than 400

## Octet RED96 system specifications\*

Sample and analysis	
<b>Detection technology</b>	Biolayer Interferometry (BLI)
<b>Biosensor type</b>	Disposable, single-use fiber optic biosensors with optional reuse by regeneration and/or re-racking
<b>Information provided</b>	<ul style="list-style-type: none"><li>Kinetic and affinity analysis (<math>k_{obs}</math>, <math>k_a</math>, <math>k_d</math>, <math>K_D</math>)</li><li>Concentration monitoring (no need for background subtraction)</li><li>Automated concentration determinations</li></ul>
<b>Data presentation</b>	<ul style="list-style-type: none"><li>Plots displaying kinetic binding, equation fits, and residuals of fits</li><li>Tabulated kinetic data and data charts</li><li>Concentration data analysis</li><li>Epitope binning and cross-blocking matrices and trace overlays</li></ul>
<b>Sample types</b>	Proteins, antibodies, peptides, media containing serum, buffers containing DMSO, periplasmic fractions, untreated cell culture supernatants, and crude cell lysates
<b>Sample format</b>	Standard, 96-well, black, flat bottom microplate
<b>Sample volume</b>	<ul style="list-style-type: none"><li>180–220 <math>\mu</math>L/well</li><li>Nondestructive testing</li></ul>
<b>Orbital flow capacity</b>	Static or 100–1500 rpm
<b>Analysis temperature range</b>	(Ambient + 4°C)–40°C, 1°C increments

For more information about ForteBio's Octet platform for label-free, real-time detection of biomolecular interactions, applications, and services, visit [www.fortebio.com](http://www.fortebio.com) or contact us directly.



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compounds in a small molecule and fragment library in 8 hours. Follow up the screen with accurate kinetic characterization of your drug candidates on the same system.

## Simplified workflow

The Octet RED96 system provides a robust assay platform with integrated software for data acquisition and data analysis that is intuitive and powerful. The regeneration and/or re-racking biosensors features allow significant cost efficiencies in your workflow.

Quantitation and kinetics	
<b>Throughput</b>	Up to 8 assays in parallel; up to 96 assays per 96-well plate
<b>Analysis time per sample</b>	hIgG quantitation in 2 minutes for 8 samples, $\leq$ 32 minutes for 96 samples Real-time kinetic binding experiments from 5 minutes to 4 hours
<b>Quantitation range for hIgG</b>	0.5 $\mu$ g/mL to 2000 $\mu$ g/mL at 400 rpm, 0.05 $\mu$ g/mL to 100 $\mu$ g/mL at 1000 rpm
<b>Baseline noise</b>	$\leq$ 3.5 pm (RMS)
<b>Baseline drift</b>	$\leq$ 0.1 nm/hour
Physical specifications	
<b>Dimensions</b>	18.6 in (H) x 17 in (D) x 20.8 in (W) 47 cm (H) x 43 cm (D) x 53 cm (W)
<b>Weight</b>	63 lb (28.6 Kg)
<b>Electrical requirements</b>	<ul style="list-style-type: none"><li>Mains: AC 100–240 V, 5.0–2.0 A, 50/60 Hz, single phase</li><li>Power consumption: 120W (240 peak)</li></ul>
<b>Safety standards</b>	CE, Nemko

## Ordering information

Part no.	UOM	Description
OCTET RED96	System	System includes Octet RED96 instrument, Octet software, desktop computer, LCD monitor, accessory kit and one-year warranty

\* All specifications are subject to change without notice.