

Octet® AHQ Biosensors

For the Determination of
Antibody Concentration



Key Features

- Direct measurement of immunoglobulins (IgG)
- Assay samples without centrifugation
- Fast turnaround of results
- Correlates to HPLC

The Octet® Anti-Human IgG (AHQ) Biosensors, in conjunction with the Octet® platform, are designed for monitoring antibody concentrations from crude lysates and cell culture supernatants. Using Anti-Human IgG Biosensors, the Octet® platform supports applications from cell culture screening to purification monitoring during the process development and production of therapeutics.

Quick Facts

- Dynamic range: 0.01–200 µg/mL for most proteins
- Throughput: 8 samples in ~ 1 minute
96 samples in ~ 24 minutes
- Precision/accuracy: < 10% CV
- Limit of detection: typically 0.01 µg/mL

Bioprocessing Applications

Accurate antibody quantitation is critical to the selection of cell lines for development and the optimization of antibody production. Traditional methods for measuring antibody concentration include HPLC, ELISA and densitometry which have long analysis times, lack of specificity and precision.

Anti-Human IgG Biosensors can be used on Octet® systems to streamline a variety of bioprocessing applications by providing precise results which require minimal sample handling and give rapid turnaround of results.

Dynamic Range

The AHQ Biosensors have been shown to quantitate in the range of 1-100 µg/mL for polyclonal human IgGs.

Sample Types

Anti-Human IgG Biosensors have been tested on Octet® instruments with human antibodies and Fc proteins in crude cell lysates and supernatants.

Correlation to HPLC

A series of bioreactor samples were assayed both on an Octet® system using Anti-Human IgG Biosensors and HPLC.

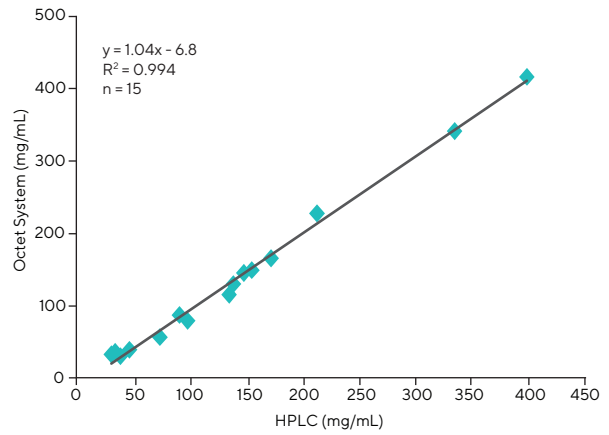


Figure 1: Correlation of sample concentrations determined using an Octet® instrument and HPLC.

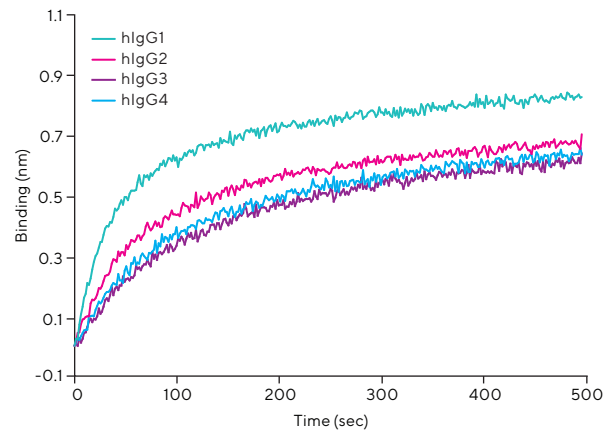


Figure 2: Human antibody isotypes binding to the Octet® AHQ Biosensors.

Anti-Human IgG Assay Principle

The Octet® AHQ Biosensors determine antibody concentration based on the rate of binding of the Fc region of the antibody to the biosensor surface. Different antibody concentrations result in different binding rates. The Octet® BLI Analysis Software calculates the binding rates from standards with known values to generate a standard curve—the binding rate of each standard is proportional to its concentration. Concentrations of experimental samples are calculated based on their binding rate compared to that of the known concentrations that make up the standard curve.

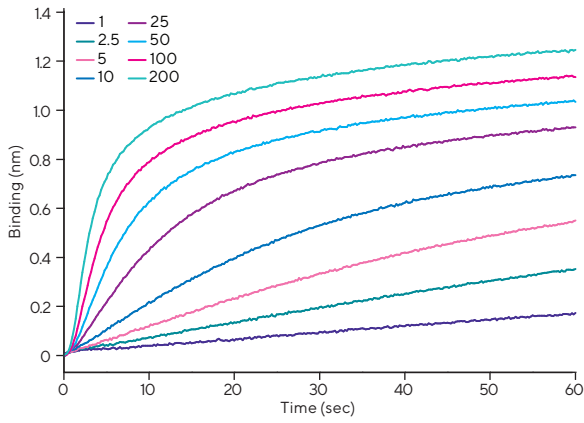


Figure 3: Real-time binding chart of anti-human IgG standards.

Assay Parameters

- Sample volume: 200 µL
- Hydration solution volume: 200 µL
- Data acquisition: 60 seconds/8 biosensors
- Flow rate: 200 mm/second
- Precision/accuracy: <10% CV
- Biosensor hydration and sample plate equilibration: 5 minutes
- Curve fit: 4-parameter logistic

Recognition of Human IgG Isotypes

The Octet® AHQ Biosensors have been shown to recognize IgG1, IgG2, IgG3 and IgG4.

Ordering Information

Part No.	UOM	Description
18-5001	Tray	One tray of 96 Octet® AHQ Biosensors coated with anti-human IgG for quantitation applications.
18-5004	Pack	Five trays of 96 Octet® AHQ Biosensors coated with anti-human IgG for quantitation applications.
18-5005	Case	Twenty trays of 96 Octet® AHQ Biosensors coated with anti-human IgG for quantitation applications.

Note: Additional materials are required to run these assays.

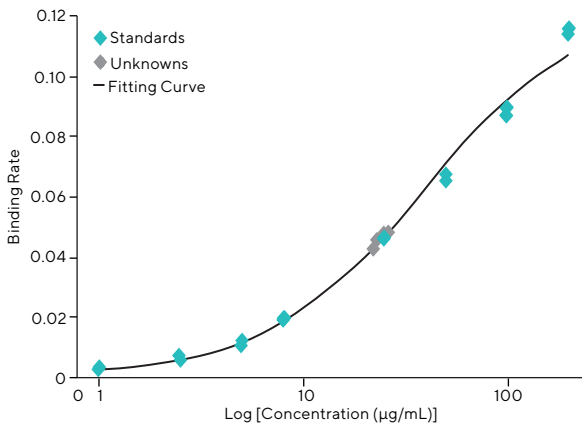


Figure 4: Standard curve with unknowns plotted on the curve.

Germany

Sartorius Lab Instruments GmbH & Co. KG
Otto-Brenner-Strasse 20
37079 Goettingen
Phone +49 551 308 0

USA

Sartorius Corporation
565 Johnson Avenue
Bohemia, NY 11716
Phone +1 888 OCTET 75
Or +1 650 322 1360



For further contacts, visit
www.sartorius.com/octet-support