fortéBIO
A Division of Pall Life Sciences

Dip and Read™ Protein G Biosensors

For Quantitation of Antibody Concentration

KEY FEATURES

- Direct detection of human, mouse and rat IgGs
- Regenerable and cost-effective format
- Obtain ELISA data in minutes

OVERVIEW

Protein G biosensors provide a rapid and direct method for quantifying mammalian IgGs from buffer, media or other complex matrices. Protein G is pre-immobilized onto the biosensors, and binds to rodent and many other mammalian IgGs with higher affinity than Protein A (**Table 1, Figure 1**), but does not bind to IgM, IgD or IgA. In combination with the Octet® system, Protein G biosensors can streamline bioprocessing applications by providing precise results with minimal sample handling and turnaround times as fast as two minutes. The biosensors can be regenerated multiple times, providing a cost-effective and time-saving assay format.

QUICK FACTS

- **Dynamic Range:** 0.05–2000 µg/mL for most proteins (Octet RED system/Oct RED384 system)
- **Throughput:** 16 samples in ~2 minutes
  384 samples in ~60 minutes
- **Precision/Accuracy:** <10% CVs

BIOPROCESSING APPLICATIONS

- Hybridoma screening
- Clone selection
- Antibody titer
- Media development
- Bioreactor growth optimization
- Chromatography mass balance

PRINCIPLE OF ANTIBODY QUANTITATION

The Octet system measures the rate of antibody binding to the surface of biosensors. Greater antibody concentrations result in faster binding rates. The Octet system software calculates a concentration from each rate based on the values of a standard curve.

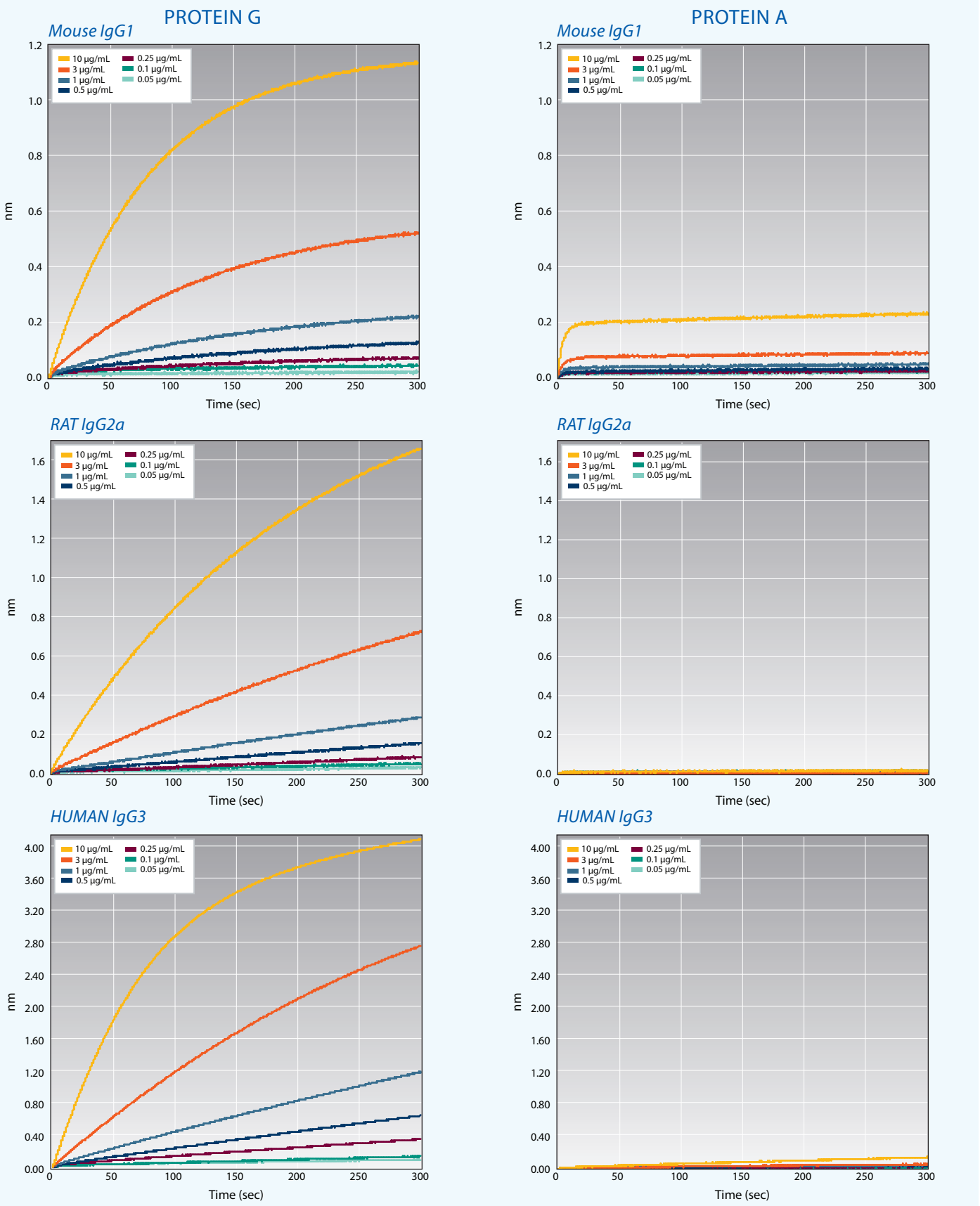

FIGURE 1: Differential binding of mouse, rat and human antibodies to Protein G and Protein A biosensors. At 10 µg/mL with a Protein A biosensor, mouse IgG1, rat IgG2A and human IgG3 produce weak signals of approximately 0.2, 0.05 and 0.1 nm, respectively. In contrast, use of the Protein G biosensor to detect mouse IgG1, rat IgG2A and human IgG3 at 10 µg/mL produced intense signals of 1.1, 1.6 and 4.0 nm, respectively. These increases of 5–20 fold demonstrate the expanded set of antibodies detectable in an "out of the box" format using the Protein G biosensors and the Octet platform.

PLATFORM CAPABILITIES

The Octet platform offers a powerfully versatile approach to measuring and characterizing molecular interactions. The Octet QK, QK^e and RED instruments operate in a convenient 96-well microplate with sample volumes as low as 200 µL. With 8 detection channels, Octet QK, QK^e and RED systems can obtain 8 measurements in as little as two minutes and 96 measurements in less than 30 minutes. The Octet QK384 and RED384 instruments decrease sample volumes even further to 80 µL, and their 16 detection channels enable 16 measurements in as little as two minutes and 384 measurements in under an hour. The Octet platform includes IqOq tools and FDA 21 CFR Part 11 compliant software tools to meet GLP requirements.

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

ORDERING INFORMATION

Part No.	*UOM*	*Description*
18-5082	Tray	96 biosensors coated with Protein G
18-5083	Pack	Five trays of 96 biosensors coated with Protein G
18-5084	Case	Twenty trays of 96 biosensors coated with Protein G
Standards: A purified standard that is identical to the experimental samples is required.		

Protein A biosensors are also available:
Tray (96 sensors, 18-5010)
Pack (5 trays, 18-5012)
Case (20 trays, 18-5013)

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