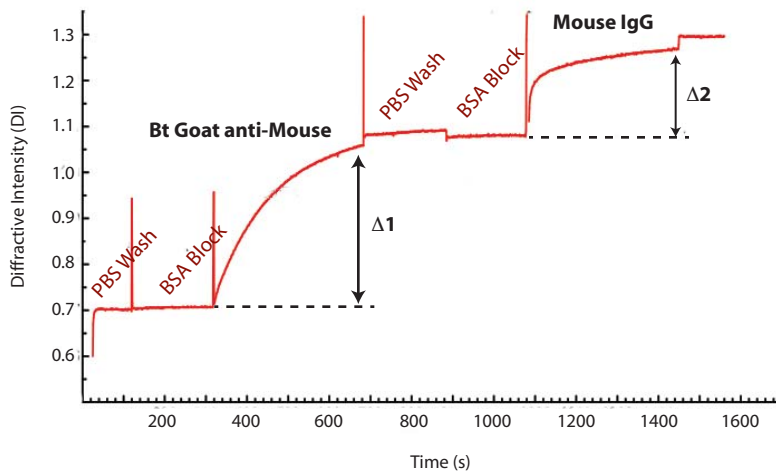


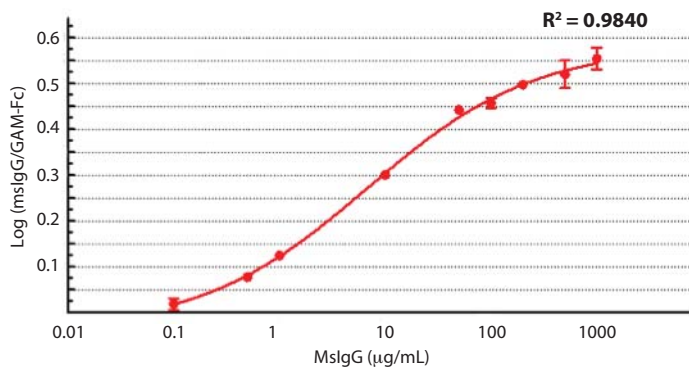
# Protein Detection and Quantitation by Diffractive Optics

The intensity of a diffraction signal produced by diffractive optics is directly proportional to the concentration of the analyte. This principle allows the dotLab<sup>®</sup> mX System to provide quantitative data on a wide variety of protein interactions. Moreover, unlike traditional ELISA or Western blot analyses, the System can process the quantitative analysis of proteins from single samples as they are generated. The example below shows the generation of a calibration curve for the determination of unknown quantities of mouse immunoglobulins (MslgG).



Representative trace of MslgG antibody applied to an immobilized biotinylated Goat anti-mouse antibody (GAM-Fc) on an avidin coated sensor.

MslgG binding curves were normalized by obtaining the ratios of the MslgG binding signal ( $\Delta 2$ ) to the GAM-Fc binding signal ( $\Delta 1$ ).



A calibration curve was generated by plotting the normalized binding results against varying concentrations of MslgG (left)

The detection limit of this assay was calculated to be 0.2  $\mu\text{g/mL}$

## Highlights:

- Quantitative analysis over a broad concentration range of analytes in addition to real time binding observations
- Some applications include:
  - on-line analysis of target proteins and impurities during protein manufacturing
  - hydridoma screening
  - quantitative detection of disease related protein biomarkers



**dotLab<sup>®</sup>**  
mX SYSTEM

[www.axela.com](http://www.axela.com)  
[info@axela.com](mailto:info@axela.com)

**axela<sup>x</sup>**