Gator® SA XT

PRODUCT INSERT
Part Number: 160029

Overview

Gator® SA XT probes are designed to capture biotinylated biomolecules ranging from 1 kDa to 2 MDa. The proprietary chemistry and optical properties enable 3 - 5 times higher signal than traditional BLI streptavidin probes. This allows for ligands and analytes to be loaded at lower concentration helping preserve precious samples. Further, its unique optical properties prevent signal inversion that is observed with traditional BLI when loaded with larger biomolecules.

The binding of target analyte to immobilized biotinylated-ligand alter the interference pattern of light reflected from the probe surface. These binding events are monitored in real time using the Gator® instrument and analyzed using the Gator® GatorOne software.

Product Information

Materials Required

- Gator Max Plate, PN: 130062
- Gator BLI 96-Flat Plate, PN: 130260
- Precision Pipettes, User Supplied
- Sterile Pipette Tips, User Supplied

Storage Conditions

Store the tray in its foil packaging pouch at room temperature (RT), ensuring that the zipper is fully sealed. Probes are stable at RT for 1 year.

General Methods

Sample Volume

Max Plate: 250 - 280 µL/well

96-well Black Plate: 180 µL - 200 µL/well

384-well Black Plate: 80 µL - 100 µL/well

Prewet Conditions

250 µL/well in Max Plate for 10 minutes at 1000 rpm in buffer diluent

Signal Comparison with Traditional BLI for a Peptide

Loading of biotinylated TnI aa 23-40 and subsequent loading of anti-TnI at different concentrations demonstrates 3-5 times higher signal with SA XT as compared to traditional BLI probes.

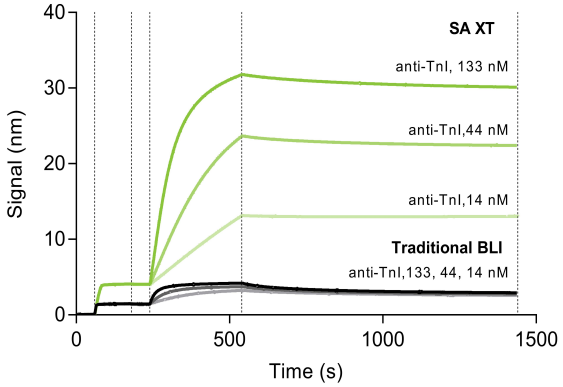

Fig. 1. The graph shows a kinetic experiment between biotinylated TnI peptide (aa 23-40) and anti-TnI antibody. Following a baseline measurement in K Buffer, biotinylated TnI peptide (1 µg/mL in K Buffer) was loaded onto SA XT probes (1000 rpm; 120 sec) followed by association and dissociation of anti-TnI over 133, 44 and 14 nM.

Loading Signal Comparison with Traditional BLI

SA XT has 3-5 times higher loading signal with biomolecules of different sizes which allows for loading of lower concentrations.

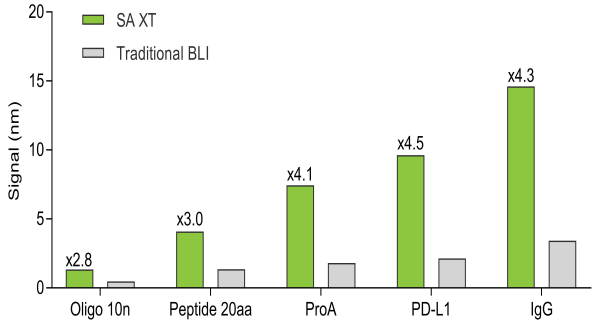

Fig. 2. SA XT generates 3-5 X signal for biotinylated molecules like oligo, peptide, Pro A, PD-L1 and IgG

Kinetic Analysis

SA XT can be used for kinetic analysis of various petides and proteins with accurate K_D values . The data below has excellent fitting with R^2 of 0.99.

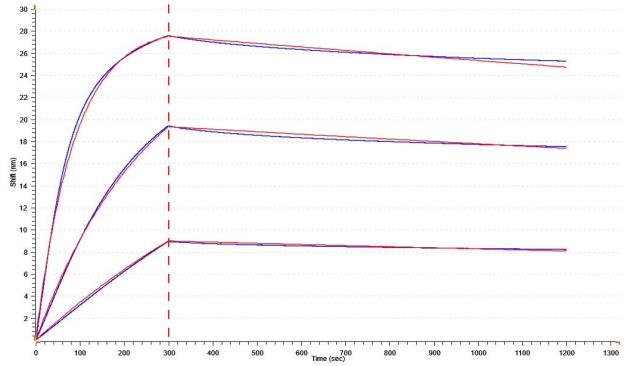

Fig. 3. Global-fit analysis using Gator® GatorOne software for antibody-antigen interaction between TnI aa23-40 and anti-TnI. K_D = 0.72 nM (R^2 = 0.99) Model: 1:1 Global Rmax Linked

SA XT And Traditional BLI Comparison for the Analysis of Lipid Nanoparticles

SA XT can be loaded with a biolayer almost as thick as 0.7 µm without signal inversion that is observed with traditional BLI. This feature is useful for the accurate analysis of larger biomolecules like lipid nanoparticles and exosomes that are widely being explored for drug delivery.

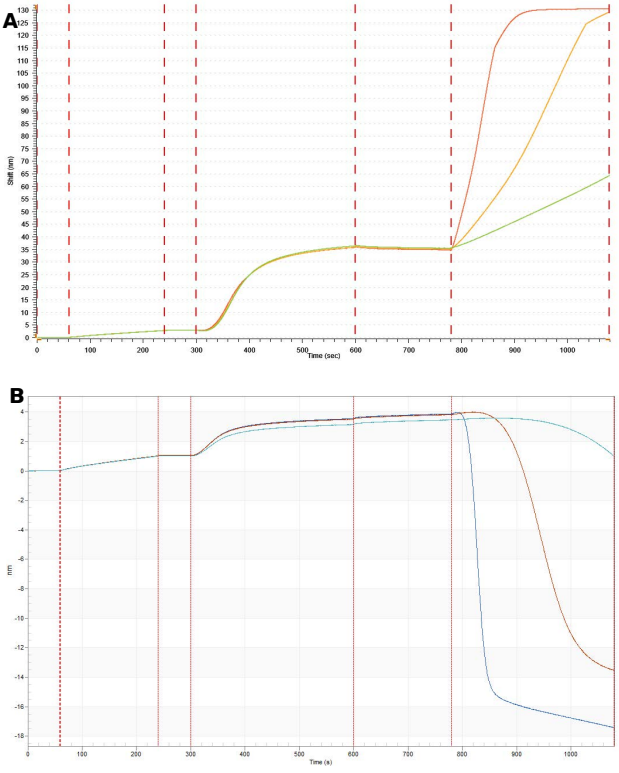

Fig. 4. Graphs show a kinetic experiment between a lipid nanoparticle (LNP) with a diameter of 100 nm and an anti-LNP antibody. Following a baseline measurement in K Buffer, biotinylated antibody against a moiety on the LNP surface was loaded onto (**A**) SA XT and (**B**) traditional BLI streptavidin probe. Following another baseline in K buffer, the LNP was loaded (1000 rpm; 300 sec). This was followed by association and dissociation of an antibody against the LNP.

