

Octet[®] High Precision Streptavidin 2.0 (SAX2) Biosensors

For High Precision and Reproducible Kinetic Characterization and Custom Quantitation

Key Features

- QC-tested to limit biotinylated ligand loading variance, providing lot-to-lot biosensor consistency
- Minimal lot-to-lot biosensor variance enables confident detection of variance from samples
- Rapid and stable capture of biotinylated molecules



Overview

Streptavidin-coated surfaces are widely used as a simple and straightforward method of molecular immobilization. Utilized with Bio-Layer Interferometry (BLI), Streptavidin Biosensors enable quick and easy modification and customization of the biosensor with any biotin-tagged molecule for quantitative and kinetic measurements. The Dip and Read High Precision Streptavidin Biosensor 2.0 (SAX2) is specifically developed and qualified for applications in downstream drug discovery and regulated environments that have stringent assay precision requirements.

Quick Facts

- Within lot CV (binding of biotin-tagged molecule): < 4%
- Lot-to-lot CV (binding of biotin-tagged molecule): < 20%

SAX2 Biosensors are QC-tested at Sartorius to meet our precision-controlled lot-to-lot coefficient of variation (CV) specification of < 20% for binding of biotin-tagged molecule onto the biosensor. Within a lot, SAX2 Biosensors are QC-tested to meet a CV of < 4%.

Example Data

Kinetics Assay Using 3 Different SAX2 Lots

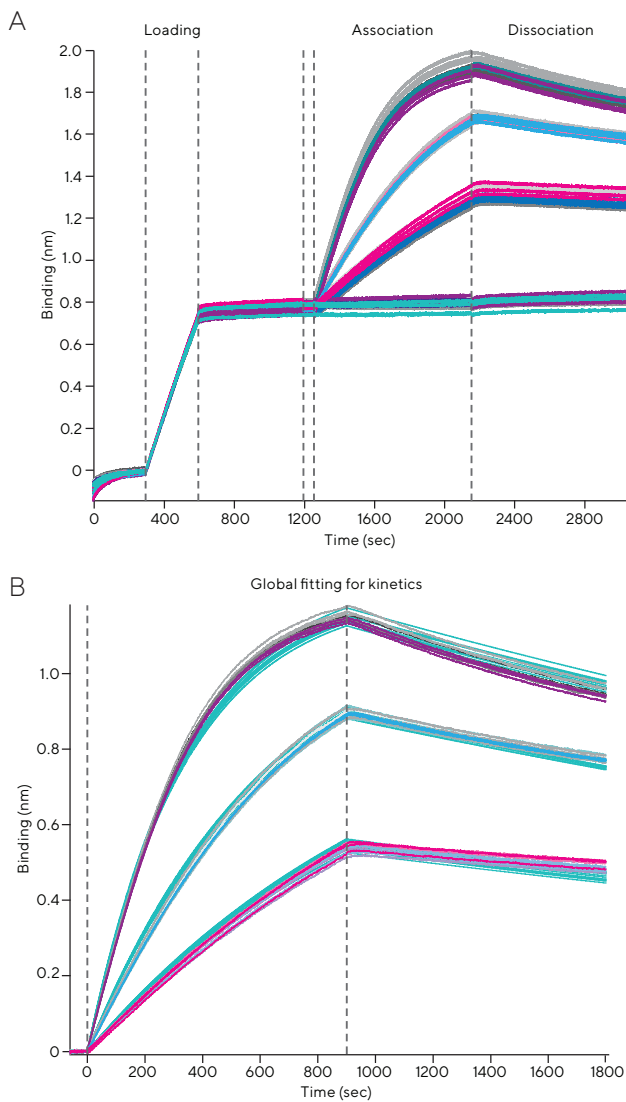


Figure 1: (A) Kinetic analysis of the interaction between a ligand biotin-Fcγ Receptor (~55 kDa) and analyte hIgG (150 kDa) with SAX2 Biosensors, overlaying three biosensor lots and raw data aligned at the ligand loading step. (B) Data was processed and curve fitted at a 1:1 binding model. Yellow lines represent fitted curves; other colors represent raw curves.

Table 1: CV calculations for loading of biotin-Fcγ receptor onto SAX2 Biosensor shown in Figure 1.

	Lot 1	Lot 2	Lot 3	SAX2 Specification
Loading CV within lot	1.5%	1.3%	1.3%	< 4%
Loading CV across lots	1.5%			< 20%
K_D CV within lot	3.4%	2.7%	4.1%	Dependent on the sample pair and type
K_D range across lots	4%			

Custom Quantitation Assay

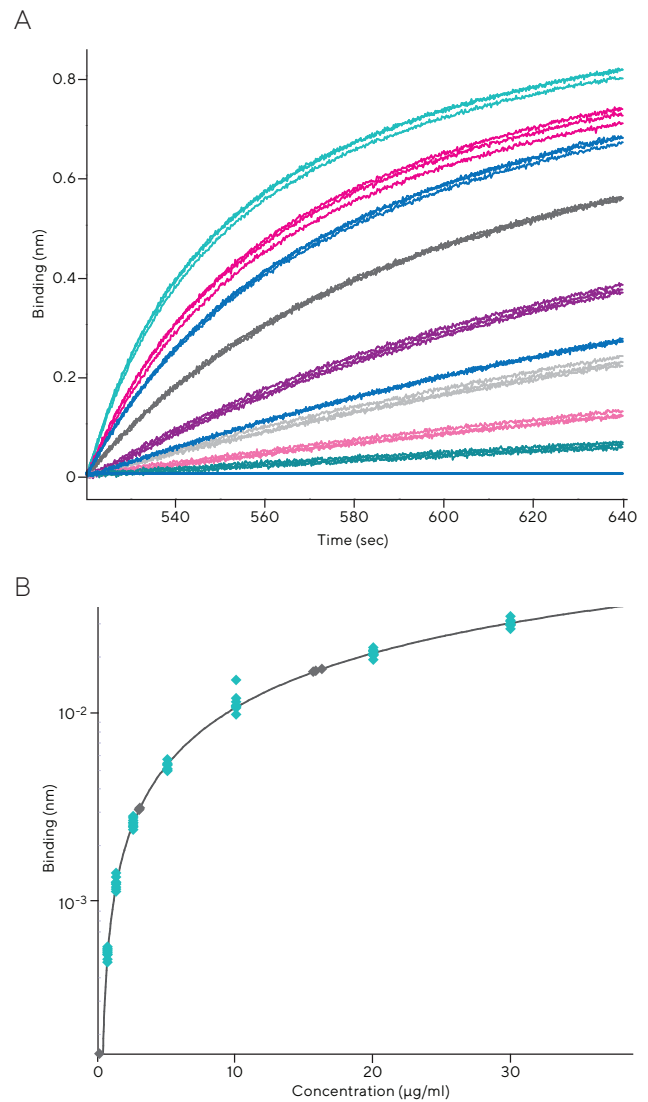


Figure 2: Detection of PSA standards and unknowns after Biotin-anti-PSA loading (30 μg/mL, 400 seconds) using SAX2 on the Octet® RED384 system with assay parameters (1000 rpm, 120 seconds). (A) PSA dose response and unknown response. (B) Representative resulting calibration curves and unknowns prediction from A.

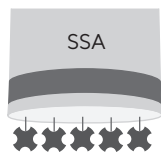
Table 2: Average calculated concentration, % CV and Recovery for PSA binding curves in Figure 2.

PSA	Expected concentration (µg/mL)	Expected concentration (µg/mL) (n=3)	% CV (n=3)	% Recovery (n=3)
Standards	30	30.2	4.5%	100.6%
	20	19.9	6.5%	99.6%
	10	10.0	0.8%	100.4%
	5	5.0	2.6%	99.7%
	2.5	2.5	4.5%	100.6%
	1.25	1.2	4.3%	99.6%
	0.625	0.6	6.3%	100.0%
Unknowns	15	16.1	3.1%	107.5%
	3	3.1	0.9%	104.3%

What SA Biosensor is Right for Me?



Rapid and stable capture of biotinylated molecules for kinetic characterization and custom quantitation.



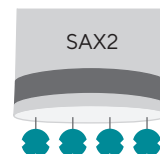
Higher density of SA for increased sensitivity.

Works best with low molecular weight or low response analytes.



Rapid and stable capture of biotinylated molecules for kinetic characterization and custom quantitation.

QC-tested for minimal variance within the same lot.



Rapid and stable capture of biotinylated molecules for kinetic characterization and custom quantitation.

QC-tested for minimal variance within the same lot.

QC-tested for minimal variance across different lots.

Range of Applications

SAX2 Biosensors are designed and optimized for applications that require minimal variation from consumables to allow for accurate measurements of variance from samples.

They are best suited for:

- Product release QC
- Activity assays in manufacturing
- Highly precise titer determination

Ordering Information

Part No.	UOM	Description
18-5136	Tray	One tray of 96 Octet® High Precision Streptavidin 2.0 (SAX2) Biosensors
18-5137	Pack	Five trays of 96 Octet® High Precision Streptavidin 2.0 (SAX2) Biosensors
18-5138	Case	Twenty trays of 96 Octet® High Precision Streptavidin 2.0 (SAX2) Biosensors

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