



UNPARALLELED VALUE IN AUTOMATED BIOMOLECULAR INTERACTION ANALYSIS

The SensiQ™ Pioneer breaks new ground in automated biomolecular interaction analysis by providing high quality affinity and kinetics data in a cost-effective platform. The SensiQ Pioneer is the culmination of efforts to make label-free analysis systems accessible for virtually any laboratory. Whether studying protein interaction kinetics, characterizing antibodies or screening small molecule drug candidates, SensiQ Pioneer can provide valuable information for researchers who require high performance from a surface plasmon resonance system.

## ANTIBODY CHARACTERIZATION

Characterizing the affinity profile of antibody interactions is of great importance in application areas, such as:

- Biotherapeutic research
- Antibody assay kit development
- Antibody QC
- Bioprocessing

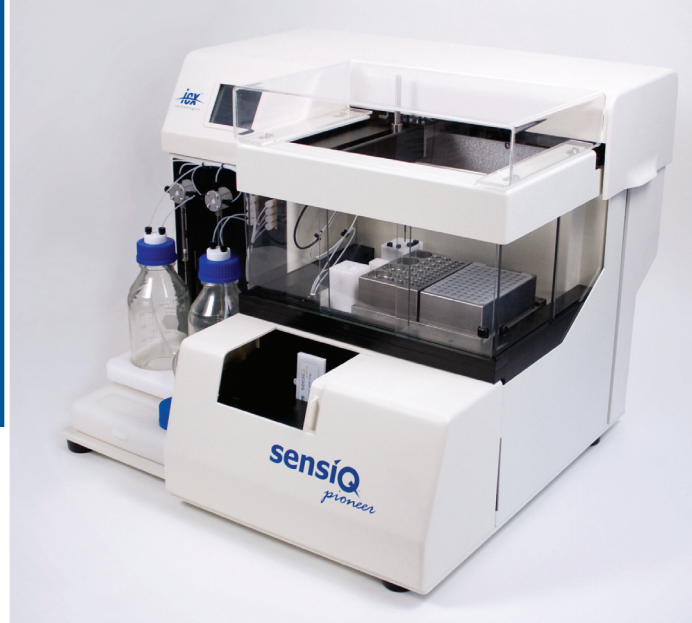
## PROTEIN-SMALL MOLECULE INTERACTIONS

Interactions between proteins and small molecules are at the center of drug development research. The exquisite sensitivity of SensiQ Pioneer coupled with novel surface chemistries allow it to perform kinetics measurements on molecules as small as 100 Da. This level of quantitative data enables researchers to gain more information about new drug candidates.

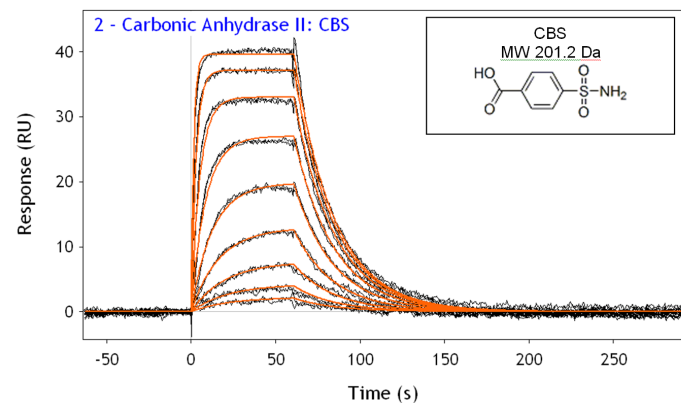
## PROTEIN-PROTEIN INTERACTION KINETICS

Understanding the kinetics of protein interactions furthers research in areas such as:

- Cell Signaling
- Disease Mechanism Studies
- Biomarker Development
- Structure-Function Analysis



Inhibitor CBS Binding Carbonic Anhydrase II  
(Nine dilutions injected in duplicate)



## KEY FEATURES

- Optional Validation package (IQ, OQ, PQ)
- Optional 21 CFR Part 11 package
- Utilizes microplates and vials
- Advanced microfluidics
  - Three sensing channels
  - Real time reference curve subtraction
  - High mass transport
- Proven SPR sensor Design
- Detection to 100 Da
- Gradient Injections
- Wide variety of surface chemistries
- Sophisticated, easy-to-use data analysis software
- Automatic in-line buffer degassing



BIOLOGICAL INSTRUMENTATION

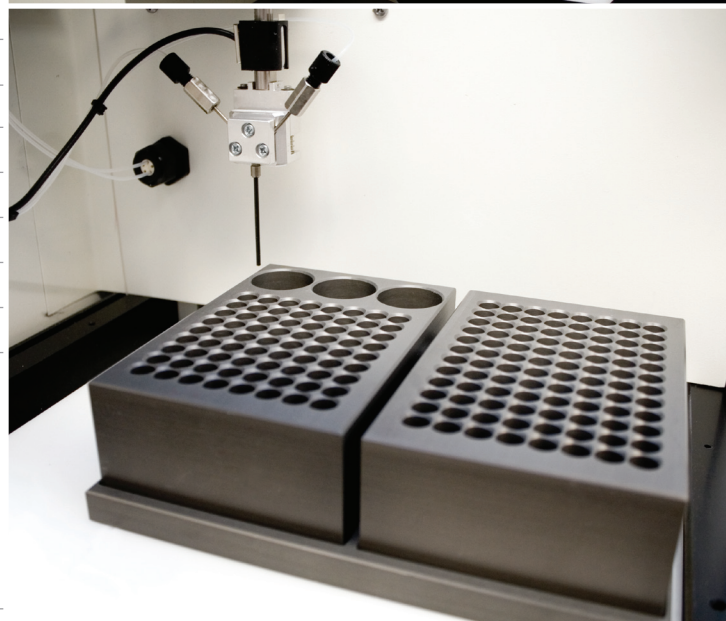
## SPECIFICATIONS

Refractive Index Range	1.33-1.40
Short-Term Noise	< 0.1 RU
Long-Term Noise	< 0.3 RU
Molecular Weight Cutoff	< 100 Da
Sample Capacity	2 Sample Racks
Sample Configuration	96 Vial, Deep Well and PCR Formats, 384 Well microplates, Custom High Volume
Sample Temperature Control	4-40°C (Max 15° below ambient)
Sample Loading	Automatic
Number of Channels	3
Flow Path	1, 1-2, 1-2-3, 3, 3-2, 3-2-1
Flow Channel Volume	< 90 nL
Channel-Channel Dead Volume	< 20 nL
Real Time Reference Curve Subtraction	Yes
Injection Volume	5-480 ul
Injection Rise and Fall Time	< 0.75 second @ 25 µL/min
Simultaneous Injections	Yes, dual sample loops
Gradient Injections	Yes
Flow Rate	5-150 uL/min
Inline Buffer Degassing	Yes
System Temperature Control	4-40°C (Max 15° below ambient)
Variable Data Rate	1- 8 Hz
Automation Capabilities	> 72 hour unattended operation

## SENSOR CHEMISTRIES

Immobilization by Amine Coupling	COOH1, COOH2, COOH3, COOH5* and Amino1*
High Capacity Amine Coupling	Hi Cap
Avidin-Biotin Based Immobilization	AvCap, BioCap and BioHiCap*
Affinity Capture Surface for Histidine-Tagged Recombinant Proteins	HisCap and HisHiCap*
Vesicle Capture for Membrane Bound Receptor Interactions	VesCap
Non-Charged Hydro-Gel	HiCap

\* Under Development



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