

Reichert 2SPR

Label-free Interaction Analysis



Precise. Flexible. Robust. Affordable.

Maximum versatility to match current and future research needs for interaction analysis

- Small Molecules
- Crude Samples
 - Whole Cells
 - Viruses
 - Lysates
 - Serum
- Immunogenicity
- Protein & Antibodies
- Nanoparticles/Nanomaterials
- Thermodynamics Analysis (ΔH & ΔS)
- Concentration Analysis
- Combine SPR with:
 - Electrochemistry
 - Fluorescence
 - Mass Spectrometry
 - Microscopy

Reichert Technologies is a distinguished and innovative developer in the design and manufacturing of advanced optical and analytical instruments and has been for more than 150 years. Reichert brought this wealth of optics knowledge and innovation to its Life Sciences Division fifteen years ago to engineer extremely robust and reliable surface plasmon resonance (SPR) systems.

Reichert Life Sciences manufactures accessible SPR systems with exceptional sensitivity and precision, allowing researchers to push the limits of label-free detailed studies of biomolecular interactions.



Reichert²SPR

2-Channel SPR System - SR7500DC

The most sensitive, flexible and affordable 2-channel SPR system available to researchers in academia and industry. The SR7500DC generates outstanding data and is ideal to confidently characterize a wide variety of biomolecular interactions, even those with very low responses and ligand immobilization levels.



Reichert SPR Advantages

- High sensitivity
- Maximum flexibility
- Low running costs
- Robust design
- Minimal maintenance
- Wide range of applications
- Top-notch service and customer support
- Unbeatable value

Pushing the Limits of Detection and Sensitivity

The outstanding performance of the SR7500DC enables the most challenging experiments, even low molecular weight (<100Da) compounds. And the SR7500DC provides exceptional quantitative information for pharmaceutical research, drug discovery, antibody screening, protein structure/function, gene regulation and systems biology.

Attractively priced, this system is the best performance-to-cost ratio SPR system for individual laboratories. The modular, component-based design allows easy access and ultimate flexibility minimizing maintenance and downtime, while maximizing uptime.

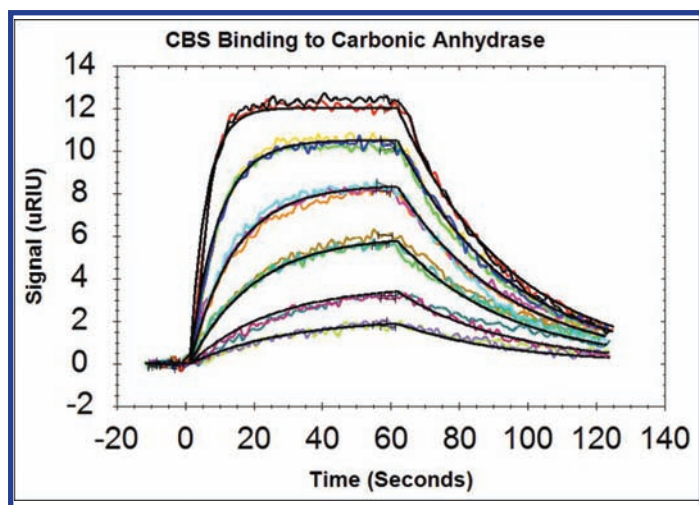
Extreme Low Noise, Low Drift for Extreme Value

The SPR SR7500DC pushes detection limits and sensitivity to new lower limits, expanding the boundaries of traditional biomolecular interaction analysis.

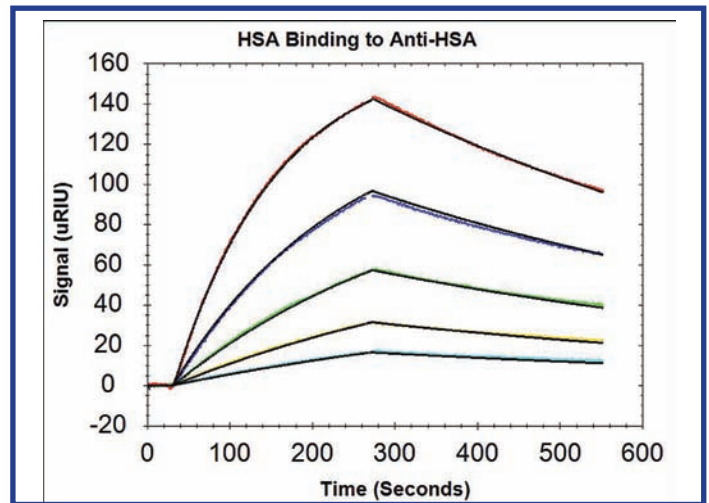
- Extremely low noise (0.05 μ RIU rms)
- Industry leading low drift (0.1 μ RIU/min)
- High sample capacity, up to 768 samples/run

Perform these SPR Applications

- Protein-protein/nucleic acids/carbohydrates/lipids/small molecule interaction
- Ab-Ag interaction, Ab screening
- Vaccines, nanometer materials, polymers
- Liposomes, exosomes, virus, VLPs
- Thermodynamics Analysis (ΔH & ΔS)
- Concentration Analysis



Small molecule binding - 4-CBS (MW 201 Da) binding to immobilized carbonic anhydrase



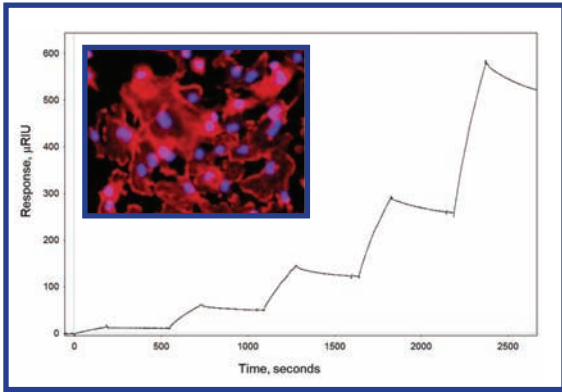
Protein-protein binding - HSA binding to immobilized Anti-HSA

Generate High Quality Data For:

- Rigorous kinetics analysis, association/on and dissociation/off rates – key indicators of biological behavior impacting therapeutic candidate suitability and dosing.
- Affinities ranging from extremely weak, mM to extremely strong, pM interactions – enabling investigation of the most subtle or most potent biologic pathways and therapeutics options.
- Concentration – measure the amount of biologically active analyte.
- Thermodynamics – understand the mechanism and energetics of the interaction.

Robust Fluidics System Provides Flexibility

- Unique open fluidics design is flexible, allowing for the implementation of both novel applications and traditional biomolecular analysis, including sample compositions of cell lysates, serum, aggregates and crude samples.
- Configuration permits the simple connection of the SR7500DC to other analytical instruments expanding research capabilities.
- Easy-to-access fluidics minimize maintenance. There is no expensive cartridge to replace and tubing is easily changed preventing compromised performance.
- Perform unique and challenging applications
 - **Whole Cells** – investigate binding of proteins to whole cells or membranes.
 - **Serum** – work with serum saving processing steps and eliminating potential system changes associated with purification.
 - **See ReichertSPR.com** for more examples including phage, lysates, SPR-Mass Spectrometry, fraction collection, and more...



Whole cell - protein interaction - Fibrinogen binding to immobilized cells. Inset is a 20x magnification image of cells on the sensor chip surface.

Specialized Flow Cells, Expand Capabilities and Applications

The 2-channel system comes equipped with a standard flow cell, but other flow cell options are available to increase the system's application scope:

- **Electrochemical Cell** provides the ability to couple SPR with electrochemistry techniques. Contact is made between three electrodes: platinum wire counter, Ag/AgCl reference and the gold chip. This cell induces an electrochemical change at the gold chip surface and simultaneously records the effect on the SPR signal. Great for investigating redox states, following polymer formation, materials analysis and biosensor development.
- **Quartz Window Cell** facilitates introducing a secondary light source illuminating the gold chip surface while simultaneously acquiring SPR data. This cell can monitor a photochemical change or fluorescence from the molecules of interest.
- **MALDI Spectrometry Cell** combines SPR with mass spectrometry to identify what is bound to the sensor chip surface.



Streamline Workflow with Intuitive Software

- Easy-to-use software assists the user with powerful, drag-and-drop feature
- Seamless data analysis with multiple binding models
- Easy to compare data
- Supports regulated environments with GxP and 21 CFR Part 11

Wide Array of Sensor Chips

- Meet a wide range of needs with Reichert's sensor chip chemistries
- Low cost sensor chips decrease annual operating costs
- Largest selection of sensor chips to explore more interactions



Reduce Operating Costs

- Low maintenance costs with accessible, easily replaceable fluidics
- Lower consumable costs allow more experiments
- Affordable service meets laboratory needs
- Lower capital investment significantly reduces lifetime ownership costs

Reichert's Customer Service Ensures Success

Reichert Life Sciences provides the very best SPR support with its team of expert application scientists and prompt service response.

Reichert's team offers:

- Installation training, lectures, and hands-on application support
- Preventative maintenance
- Remote and on-site service plans
- Feasibility studies
- Method development and consulting

Reichert is fully committed to you and your applications and will help you obtain the best possible data.

**Schedule any of the services:
Email or Call Reichert Life Sciences
reichertspr.lifesciences@ametec.com
1-888-894-8955**



www.ReichertSPR.com

Specifications

Technical Information

Measurement Channels	Two
Sample Loading	Autosampler or semi-automatic injector
Sample Capacity	Autosampler, 12 to 768 samples
Injection Volume	1 μL to 4,500 μL (depends on installed loop volume)
Flow Rate	0.1 to 3,000 $\mu\text{L}/\text{min}$
Temperature Range	4°C to 70°C (Max 10°C below ambient)
Refractive Index Range	1.32 to 1.40
Sample Storage	4°C or ambient temperature
21 CFR Part 11	Compliant

Measurement Sensitivity

Baseline Noise	0.05 $\mu\text{RIU RMS}$
Baseline Drift	< 0.1 $\mu\text{RIU}/\text{min}$
Minimum Molecular Weight Detection	< 100 Daltons

Typical Kinetic and Equilibrium Constant Ranges

Association Rate Constant	10^3 to $10^8 \text{ M}^{-1}\text{s}^{-1}$
Dissociation Rate Constant	10^{-1} to 10^{-6} s^{-1}
Equilibrium Dissociation Constant	mM to pM

Dimensions

Semi-Automated System	35.5 cm wide x 43.2 cm high x 45.7 cm deep
Weight	15.1 kg
Fully-Automated System	68.6 cm wide x 38.1 cm high x 61.0 cm deep
Weight	33.6 kg

Also available - Reichert4SPR, the 4-Channel SPR System for the highest level of throughput and flexibility. Visit ReichertSPR.com.



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