

Reichert4SPR

Protein Interaction Analysis



Sensitivity. Affordability. Flexibility. Throughput.

**Confidently analyze
the widest range
of targets with
unmatched flexibility
and sensitivity.**

- Small Molecules
- Fragment Screening
- Crude Samples
 - Whole Cells
 - Viruses
 - Lysates
 - Serum
- Immunogenicity
- Protein & Antibodies
- Nanoparticles/Nanomaterials
- Epitope Binning
- Aptamers
- Concentration Analysis
- Thermodynamics Analysis (ΔH & ΔS)

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.



A detailed 3D molecular model showing a protein structure (green and blue ribbons) interacting with a DNA double helix (orange and blue sticks).

Reichert4SPR

New 4-Channel SPR System - Reichert4SPR

An unbeatable combination of sensitivity, flexibility and affordability for performing interaction analysis in advanced therapeutic discovery.



The new 4-Channel is a method development and binding kinetics workhorse saving at least 40% in total ownership costs. And it increases the range of applications from the traditional analysis of purified samples to crude sample types such as lysates, whole cells, aggregates and serum.

Reichert 4-Channel Advantages

- Maximum flexibility in handling sample compositions from small molecules to complex crude matrices
- High sensitivity to perform the most challenging applications
- 40% lower total cost of ownership
- Robust for maximum uptime

Reichert4SPR System Features

- Unparalleled baseline stability (<0.1 $\mu\text{RIU}/\text{min}$) and exceptionally low noise (<0.05 μRIU RMS) for the analysis of complex targets and low molecular weight compounds.
- Extremely high sample capacity – up to 768 injections in a single programmed unattended run.
- Robust, accessible, fluidics platform maximizes flexibility in handling a variety of sample types including samples in crude matrices and minimizes maintenance costs.
- Guided software makes SPR experiments easy.
- First class customer support to get the most out of your SPR experiments.
- Total cost of ownership is 40% lower than leading competitor. The purchase price, consumables, and service can't be beat.

Outstanding Performance for Diverse Applications

Reichert4SPR is highly sensitive with superior baseline stability making it ideal for use in both innovative, challenging applications and routine biomolecular interaction analysis.

Applications include:

- Protein-protein/nucleic acids/carbohydrates/lipids/ small molecule interaction
- Ab-Ag interaction, Ab screening, epitope binning
- Vaccines, nanometer materials, polymers
- Liposomes, exosomes, virus, VLPs
- Thermodynamics analysis (ΔH & ΔS)
- Concentration analysis
- Innovative fluidics design allows for unique and challenging applications:
 - Whole cells, viruses, bacteria – analyze macromolecules binding to whole cells

- Serum and lysates – run crude samples instead of spending valuable time and money to purify or capture an important target out of a crude matrix
- SPR-Mass Spectrometry – the open design allows coupling to mass spectrometry and other techniques

Reichert4SPR, Quantitative Information

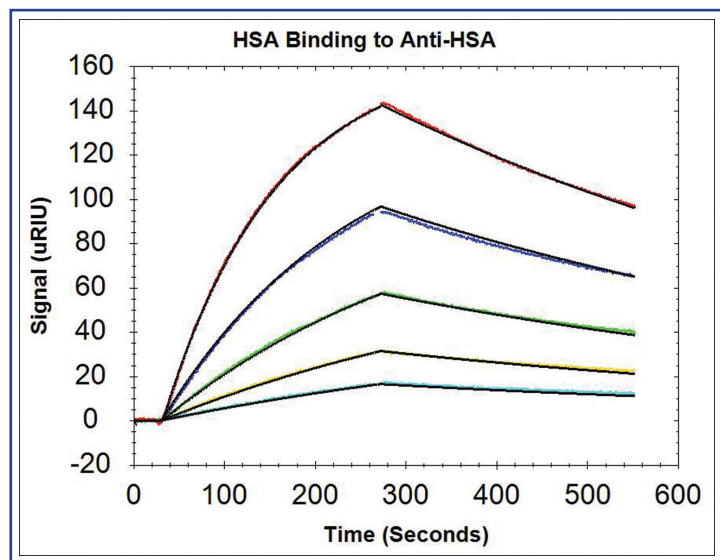
- Accelerate drug discovery with unmatched stability and sensitivity to select optimal lead candidates.
- Define molecular mechanisms and gain a better understanding of biological pathways and structure-function relationships.
- Probe protein drug targets and diagnostic markets.
- Choose and characterize biotherapeutic candidates.
- Characterize antibodies including epitope mapping.
- Carry out concentration determination in crude matrices.

Robust Fluidics System Provides Flexibility

- Robust fluidics design significantly decreases risk of clogging.
- Increase application scope with the ability to run sample types that are not possible on other systems.



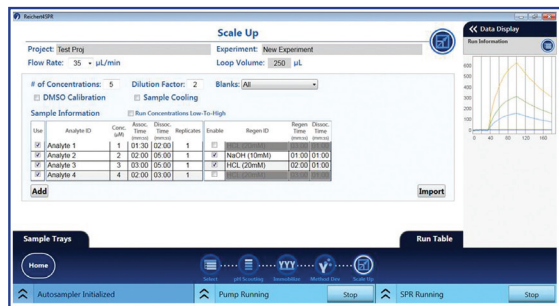
- Minimize maintenance costs and maximize uptime to spend more time on research.
- Variable tubing sizes, from 64 to 500 μm inner diameter, accommodate the majority of sample types.
- Variable sample loop volumes, from 10 to 5000 μL , for the most flexible injection volumes.
- Compatible with a wide range of solvents including most organic solvents.



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



Intuitive Software Design



Streamline workflow

- Guided workflow for all SPR experiments
- Optimized usability for seamless execution
- Flexible data analysis with multiple binding models
- Fast experiment setup - even for novice users
- GxP and 21CFR Part 11 regulatory compliant – unnecessary to purchase additional software

Support applications with electronic record compliance

- Access controls to ensure data integrity
- Configurable authorization levels for creating and running experiments, options, and data export
- Logs and audits trails, tracking modifications and maintaining a complete history
- Data export in Excel and text formats to link with user documentation and archiving

GxP services, full qualification and validation support

Reichert's GxP service package ensures the system performs to standard and is maintained in a validated state. The package includes:

- Instrument Qualification – IQ/OQ/PQ – thorough on-site testing and complete documentation package meeting all requirements
- Re-qualification (RQ) – Lifetime, annual re-qualification keeping the system in a validated state
- 21CFR compliance assessment and process recommendations

Affordable, High Quality Consumables

- Extensive line of sensor chips suits multiple applications
- Customized sensor chips manufactured upon request
- Sensor chips are much less expensive than the leading competitor with equivalent performance
- Other consumables (vials, caps, well plates, etc.) are not proprietary, so more affordable



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:

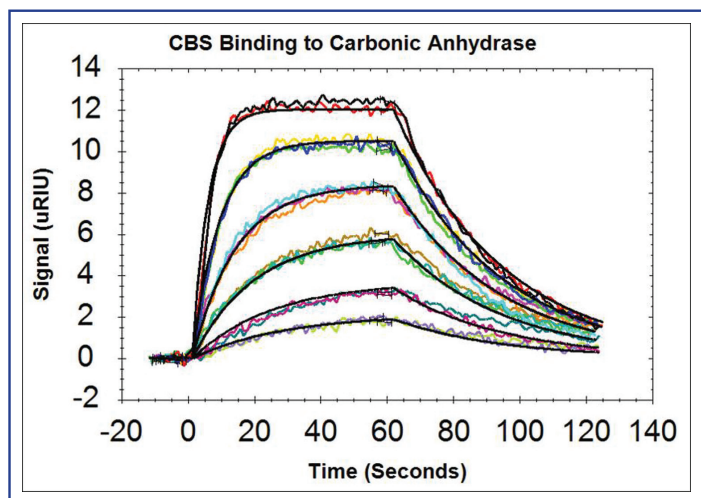
- Installation training, lectures, and hands-on application support
- Preventative maintenance
- Remote and on-site service plans
- Feasibility studies
- Methods development and consulting

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

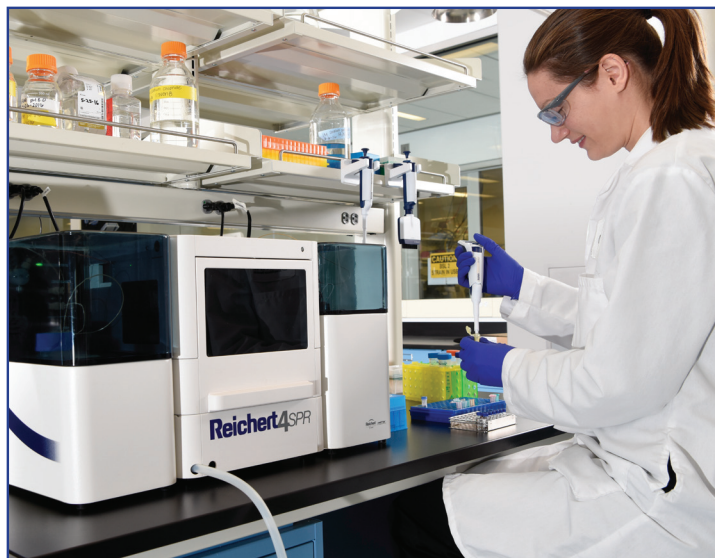
Schedule any of these services:

Email or Call Reichert Life Sciences
reichertspr.lifesciences@ametech.com
1-888-894-8955

www.ReichertSPR.com



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



Specifications	
Technical Information	
Measurement Channels	Four
Sample Loading	Autosampler, Up to 768 samples
Injection Volume	1 μL to 4,500 μL (depends on installed loop volume)
Flow Rate	0.1 to 3,000 $\mu\text{L}/\text{min}$
Buffer Degasser	Built in
Temperature Range	4°C to 70°C (Max 10°C below ambient)
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
Physical	
Dimensions	68.6 cm wide x 38.1 cm high x 61.0 cm deep
Weight	36.1 kg

Reichert is fully committed to your success with superior service, support and consulting options to ensure you get the best solution that meets research, budget and time constraints.

Visit ReichertSPR.com

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