



Bi Biosensing Instrument

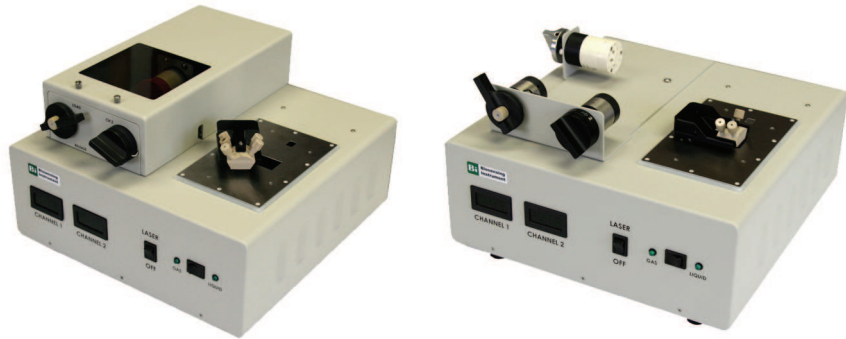
We bring you versatile, powerful and precise Surface Plasmon Resonance Instruments

Our products are ideal for:

- Life science
- Electroanalytical applications
- Drug discovery
- Food quality and safety
- Environmental sciences
- Gas- and liquid-phase chemical sensors



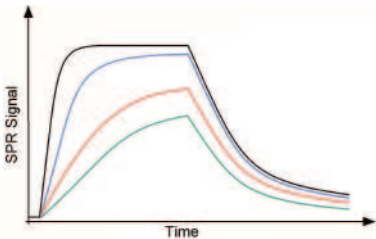
Whatever your line of research, we have the perfect tool at Biosensing Instrument Incorporated. Our powerful SPR instruments and accessories are tailored to your unique research needs. Our flexible designs help you perform research more precisely — and more efficiently. You can customize modules for specific applications. You can upgrade instruments as your needs evolve. Our unique system allows you to easily switch among fluid injection, electrochemical and gas phase detection applications. Our cutting-edge design is balanced with a focus on quality. Our instruments feature sensitive, label-free technology to detect both large and small analytes, and to study fast and slow kinetics. At Biosensing Instrument, innovation meets precision.



The secret to our technology

Surface Plasmon Resonance detects molecular binding events or conformational changes of molecules by measuring the surface plasmon resonance angle. That means speed and sensitivity are crucial to accurately measuring the resonance angle change. Biosensing Instrument uses a unique drift and noise cancellation technology to achieve this high sensitivity and fast time response -- which means you perform better research.

We complement our unique technology with a unique design. Our modular system allows you to tailor the instrument to meet your changing needs. Biosensing Instrument's design provides you with research tools that are the ultimate in versatility and flexibility.



Biosensing Instrument Inc.

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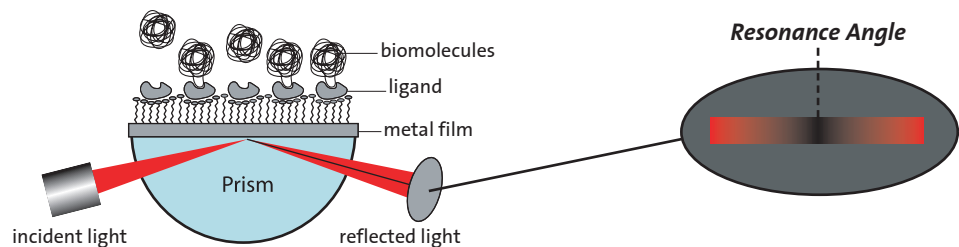


Fig. 1 A key task of SPR Technology is to accurately and rapidly detect the shift in the resonance angle (dark line in the reflected beam).



A typical application of SPR (Fig. 2) is to study the binding of protein molecules onto the sensor surface. BI-SPR is ideal for users to monitor the entire process involving sensor surface modification, chemical activation, and biomolecular immobilization.

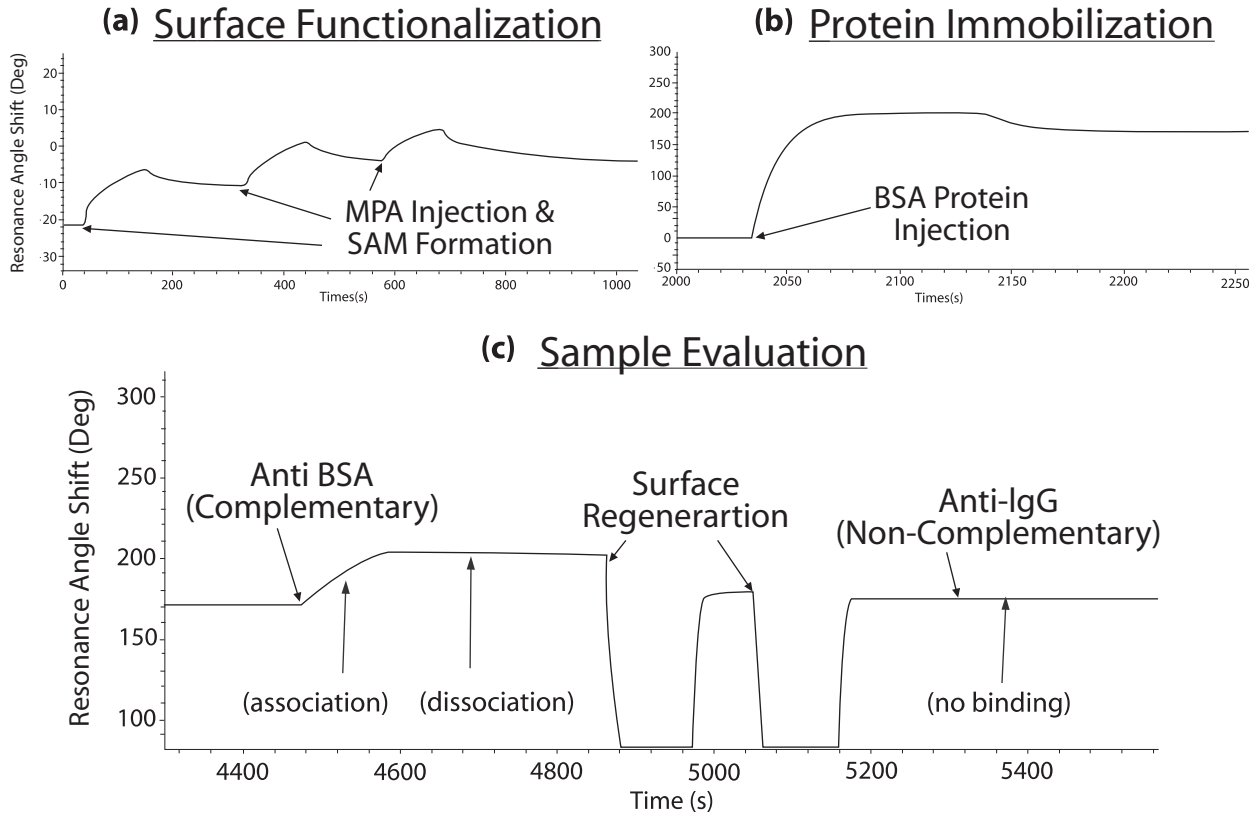


Fig.2 A representative SPR sensorgram.

(a) Three injections of mercaptopropionic acid (MPA) form a functional self-assembled monolayer on the sensor surface. (b) Following surface activation with standard NHS/EDC attachment chemistry (not shown), BSA protein is immobilized onto the sensor surface. (c) Following an injection of ethanol amine to block the remaining active sites (not shown), 50nM anti-BSA complementary protein is injected and can be observed binding to the surface. Two regeneration injections follow to release the anti-BSA protein and renew the surface for further binding tests. Finally, 100nM anti-IgG **non-complementary** protein is injected, but binding is not observed as expected.

Instrument Specifications:

Angular resolution: $<1 \times 10^{-5}$ Deg
 Flow cell configuration: single and serial
 Injection volume: 20 μ L, minimum
 Sample delivery: semi-automated

Fastest sampling rate: $<.5$ msec.
 Channel volume: ~ 1 μ L
 Flow rates: 2 nL/min – 8 mL/min

Powerful technology meets incredible people

At Biosensing Instrument, our passion for cutting-edge technology is matched by a commitment to a tradition of quality and customer satisfaction. We understand your needs not only as a scientist, but as a client, and we pledge to offer a level of customer service that is every bit as professional as our instruments are precise.

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