Biacore™ 1 series

LABEL-FREE INTERACTION ANALYSIS

Biacore™ 1 series is a one needle platform that transforms protein interaction analysis using surface plasmon resonance (SPR) — making it simpler and faster to use without compromising quality. Now you can focus on generating the consistent and reproducible data needed in your research.

Our six flow-cell SPR System, Biacore™ 1 series comes in three system configurations: Biacore™ 1K, Biacore™ 1K+ and Biacore™ 1S+. The systems offer analytical flexibility that can grow with your group's need for sample capacity, sensitivity, and throughput.

All systems are built for analysis in a GxP-regulated environment. The single software platform for Biacore™ 1 series systems allow you to spend less time training on running the instruments, and less time on result generation and evaluation.

Application methods are easily transferred to other labs or to other Biacore™ 1 series systems and the higher throughput systems of the Biacore™ 8 series.

You can use Biacore™ 1 series systems across a wide range of applications, molecules, and both pure and complex samples — from small fragments to large viruses. The systems are scalable so your research won't be limited as your needs evolve.

Biacore™ 1 series SPR Systems provide ease of use and shorten your time to results

- No programming skills needed for set up and to start the analysis when using predefined methods, and flexible software tools to speed up assay development.
- Straightforward transfer of methods to other Biacore™ 1 series or Biacore™ 8 series systems.
- Less time needed to train on running the instrument, and how to generate and evaluate results.
- Simpler data interpretation: compile, visualize and export data with results in minutes.
- Optimized injection design with six flow cells — enables more efficient sample utilization and greater application utility, including multicomplex analyses in one run.
- Maximize run efficiency — queue methods/assays and let it run overnight or over the weekend.

Fig 1. Biacore™ 1K, Biacore™ 1K+ and Biacore™ 1S+ systems are based on a robust SPR platform with the flexibility that makes it easier and faster to generate consistent and reproducible interaction data with minimal effort. Biacore™ 1K can be upgraded to Biacore™ 1K+ system.

Microfluidic design maximizes assay set up and reduces your running cost

Biacore™ 1 series one channel flow system consists of six flow cells arranged in series. Compared to other one needle Biacore™ SPR Systems, this equals an increase in the number of flow cells by 50% to 200% — maximizing assay set up. A Biacore™ Series S sensor chip is used, reducing your running costs as the number of flow cells are increased from four (as in Biacore™ T200 and Biacore™ S200) to six flow cells.

The flow cells can be addressed individually as single flow cells (1, 2, 3, 4, 5, 6) and in pairs (1/2, 3/4, 5/6) Figure 2A. Biacore™ 1K+ and Biacore™ 1S+ can also address flow cells in series; in quadruplets (1234, 3456) or all together in sequence (123456) Figure 2B.

The illustration below shows a schematic representation of the six flow cells through the channel flow path. The wider blue/green/orange paths are in contact with the sensor surface. White circles are inlets and outlets. Gray paths connect the flow cells.

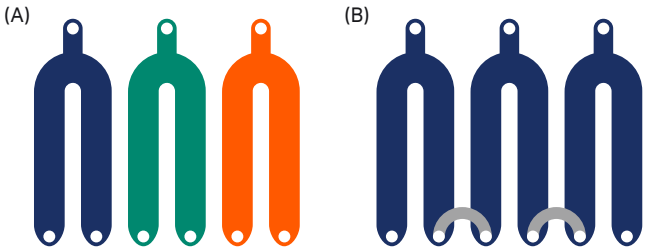

Fig 2. Flow cells addressed in pairs (A) or serial all together (B).

More information, faster with 40% reduced analyte consumption

Increased analytical capacity speeds up assay development, analysis and enables you to verify and confirm results using the extra flow cells. You can save assay time, sample quantity, and sensor chips (Table 1, Table 2).

The use of six flow cells and the ability to perform a single analyte injection over multiple ligands in series is a good example how you can save sample quantity. Figure 3 shows an antibody screening experiment to identify yes/no binding to the antigen. The screen consists of 15 antibodies that were captured on Sensor Chip Protein A. We performed the analysis in only three cycles (five antibodies per cycle) on Biacore™ 1K+ or Biacore™ 1S+ systems compared to five cycles for Biacore™ T200 (three antibodies per cycle). As a result, the analyte consumption was reduced by ~40% in Biacore™ 1K+ and Biacore™ 1S+ systems compared to Biacore™ T200 (Fig 3).

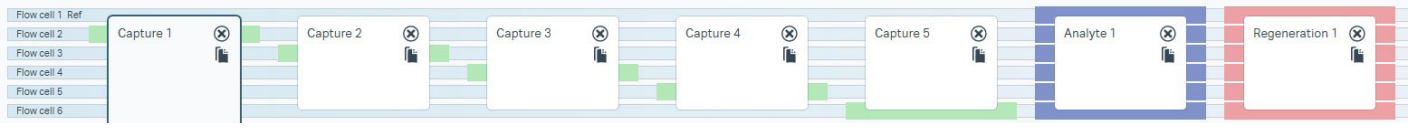

Fig 3. Analyte (antigen) injected over five captured antibodies per cycle in an experiment set up on Biacore™ 1K+, saving ~40% of analyte consumption compared to Biacore™ T200. (Illustration from Biacore™ Insight Control Software).

Table 1. Performance overview of Biacore™ systems with six versus four flow cells (with flexible flow cell addressing)

Application example	Recommended flow cell addressing	Biacore™ 1K+ and Biacore™ 1S+ systems	Biacore™ T200 and Biacore™ S200 systems	Benefits of 6 instead of 4 flow cells per sensor chip
		6 flow cells	4 flow cells	
• Yes/no binding studies • Antibody screening • Kinetic screening • Epitope binning	One reference flow cell, serial analysis	5 active flow cells, 1 reference flow cell	3 active flow cells, 1 reference flow cell	Additional 2 flow cells available • increases number of ligands by 60% • reduces analyte consumption by 40%
• Kinetic determination • Affinity determination	One reference flow cell per flow cell pair	3 active flow cells, 3 reference flow cells	2 active flow cells, 2 reference flow cells	Additional flow cell pair available • increases analytical capacity by 50% • reduces sensor chip cost by 1/3
• Concentration analysis	No reference flow cell required	6 active flow cells	4 active flow cells	Additional 2 flow cells available • measure six components in one injection of a complex sample

Table 2. Performance overview for Biacore™ systems with six versus two flow cells (restricted to pair wise flow cell addressing)

Application example	Recommended flow cell addressing	Biacore™ 1K	Biacore™ X100	Benefits of 3 instead of 1 flow cell pairs per sensor chip
		6 flow cells	2 flow cells	
• Yes/no binding studies • Kinetic determination • Affinity determination	One reference flow cell, serial analysis	1 active flow cell, 1 reference flow cell	1 active flow cell, 1 reference flow cell	Additional 2 flow cell pairs available • triples the number of interaction analyses per sensor chip • reduces sensor chip cost by 2/3

High quality data and low short-term noise

Low molecular weight (LMW) drug discovery and fragment-based drug discovery (FBDD) seeks binders to weak, less conserved binding sites. This trend places more importance on the sensitivity of detection techniques used. The high sensitivity Biacore™ 1 series systems allow the analysis of the smallest organic compounds — even for low-affinity interactions (K_D in the millimolar range). This is important for reliable, small molecule fragment screening. Biacore™ 1 series systems let you work with large, multidomain targets or rare/sensitive targets, like G protein-coupled receptors (GPCRs) where only a fraction of the target maintains its biological activity during preparation and analysis. The higher sensitivity allows lower surface densities to be used, which simplifies data interpretation. A lower density surface can give fewer secondary interactions and increase the proportion of the target that is accessible for binding. Some targets may aggregate on the surface at very high densities and can be challenging for less sensitive instruments.

Analysis may be performed directly in crude matrices such as a membrane preparation, avoiding unnecessary sample handling that risks negatively affecting the activity level.

The high-quality instrument design, low short-time noise, and high signal stability across Biacore™ 1 series systems allow sensorgrams to be clearly separated down to very low resonance unit (RU) responses. In Biacore™ 1S+ this enables sensorgrams to be separated in the milli-resonance unit (mRU) range (Fig 4). You can be confident in your data analysis, even if the highest concentration gives a response below 0.5 RU.

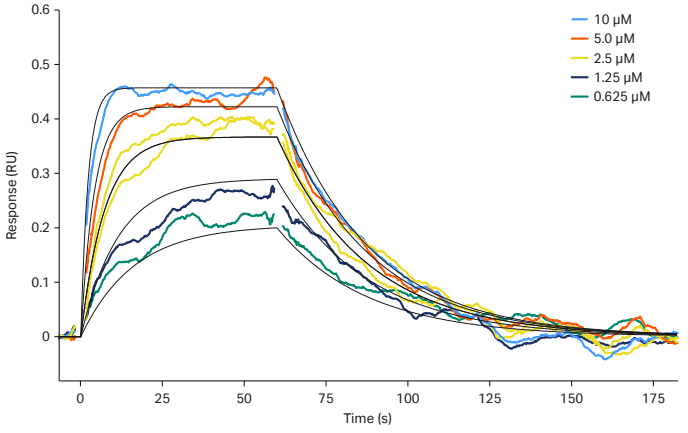

Fig 4. The high sensitivity of Biacore™ 1S+ system enables confident analysis of data, even if the highest concentration gives a response below 0.5 RU. (Data: CBSA binding to Carbonic anhydrase II. Data fitted to 1:1 binding model. Max. response [R_{max}] 0.5 RU).

The combination of the low short-term noise and the 40 Hz data collection rate in Biacore™ 1S+ increases resolution in rapid off-rates and enables determination of off-rates up to 6 s^{-1}. The 40 Hz data collection rate increases the number of data points collected in a pre-determined time and improves the accuracy of rapid on- and off-rate determinations (Fig 5).

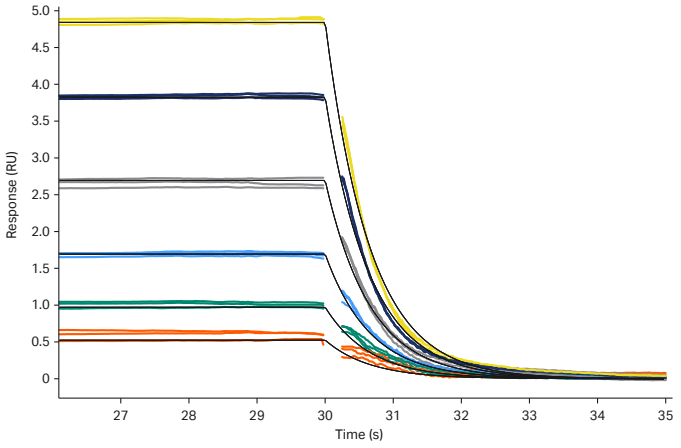

Fig 5. Fast kinetics (k_d 2 s^{-1}) resolved confidently below 5 RU using a collection rate of 40 Hz. Biacore Multi Cycle Kinetics (MCK)™ showing excellent triplicate data at 37°C. (Data: Sulpiride binding to Carbonic anhydrase II).

Remarkable sensitivity across Biacore™ 1 series systems detect samples down to 1 pM

Concentration analysis is supported on all three Biacore™ 1 series systems via Biacore™ Insight Software extension: Concentration and Potency. The remarkable sensitivity of the instruments enables detection down to 1 pM (Fig 6).

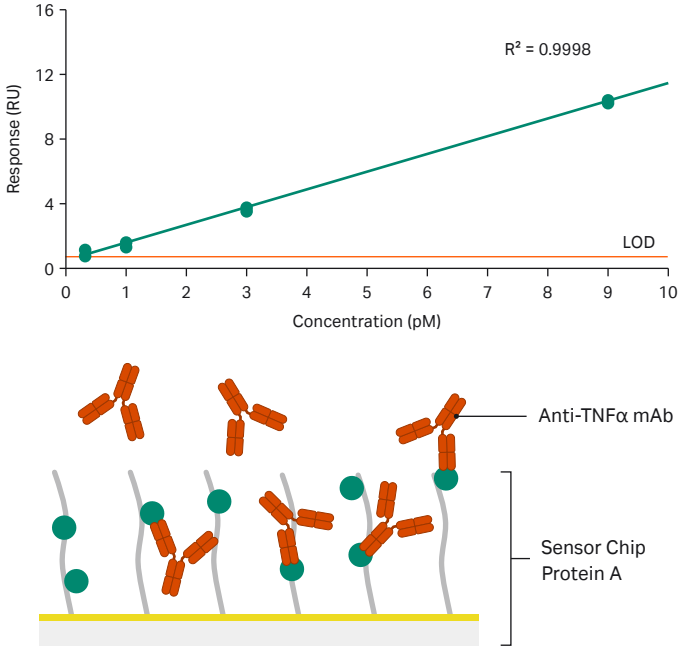

Fig 6. All Biacore™ 1 series systems were able to detect analyte responses of 1 pM (Biacore™ 1K shown). Ten replicates of buffer were used to calculate the limit of detection (LOD = average + 3 × standard deviation). (Data: Human monoclonal anti-TNFα antibody [0.3–27 pM] interaction to Sensor Chip Protein A using 20 min. injection time).

Distinguish tight binders with confidence

High quality instrument design, low short-time noise, and high signal stability across Biacore™ 1 series systems allow for reliable determination of very slow off-rates down to 10^{-6} s^{-1} — providing effective differentiation between stable binders. ***Single-cycle kinetics*** is when a series of sample concentrations (normally 3–9) are injected one after the other in the same cycle. By using ***Single-cycle kinetics*** you have a better chance for slow interactions to reach saturation. Assay time is significantly reduced compared to ***Multi-cycle kinetics***, because a single dissociation time is added after the last sample injection. Figure 7A shows a single-cycle kinetics experiment (five injections) in which a dissociation time of 1 h was used to accurately determine the dissociation. Figure 7B shows Biacore Single Cycle Kinetics (SCK)™ experiment (nine injections) in which two antibodies during affinity maturation was distinguished on their dissociation characteristics.

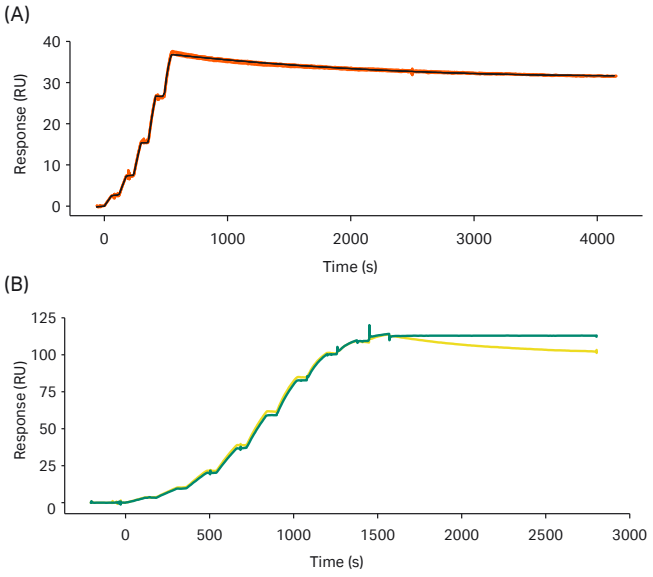

Fig 7. (A) Determination of slow dissociation to k_d 2 × 10^{-4} s^{-1} on Biacore™ 1K+. (Data: TNFα binding to a monoclonal anti-TNFα antibody captured on Sensor Chip Protein A). (B) Differentiation of two samples during affinity maturation (***Single-cycle kinetics*** with nine injections). (Courtesy: Medical University of Vienna).

Expand application versatility

Biacore™ 1 series systems come with innovative injection tools that allow for versatile assay design.

The ***Dual*** command in Biacore™ Insight Control Software injects two solutions in sequence with no intermediate running buffer or washing steps (Fig 8). ***Dual*** may be used to overcome a common issue in epitope binning — low affinity of the binding between the antigen and first antibody. This results in dissociation of the antigen and therefore an underestimation in binding level of the second antibody. To minimize dissociation, the antigen and second antibody may be injected using ***Dual***.

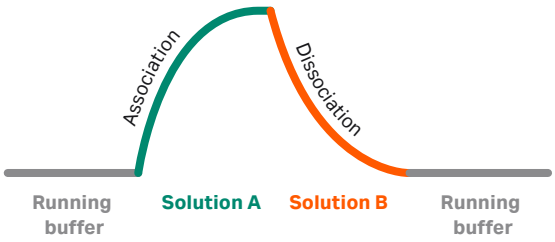

Fig 8. The ***Dual*** command injects two solutions in sequence with no intermediate washing steps between Solution A and Solution B.

Dual can also be used to study dissociation of a protein to a ligand in various buffer compositions. Another use is the study of the pH dependency of antibody-like molecules to mimic endosomal pH effects on antibody-drug-conjugates dissociation to a target receptor. Figure 9 shows how the dissociation of a DNA binding protein to a DNA ligand increases with higher concentrations of nucleotide. The data of Solution B was then fitted to a 1:1 dissociation model in Biacore™ Insight Evaluation Software.

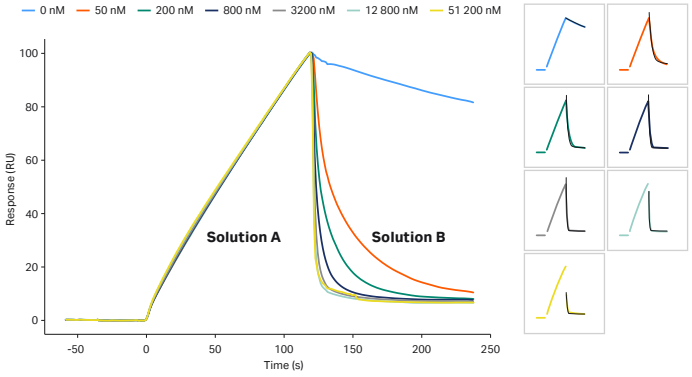

Fig 9. ***Dual*** command was used to inject a DNA binding protein (Solution A) immediately followed by running buffer containing increasing concentrations of nucleotide (Solution B) over a sensor surface with coupled DNA ligand. The DNA binding protein dissociates faster in the presence of higher concentrations of nucleotide. (Courtesy: A Fish, NKI-AVL, The Netherlands).

The ***ABA*** command allows two different solutions to be injected in the same cycle in the following order: solution A, solution B, then solution A (Fig 10). This enables buffer scouting to be run directly from a microplate because a temporary buffer condition for each sample is created. The ***ABA*** injection may also be used in competition assays. Data gathered using ***ABA*** can be fitted to kinetic models in Biacore™ Insight Evaluation Software.

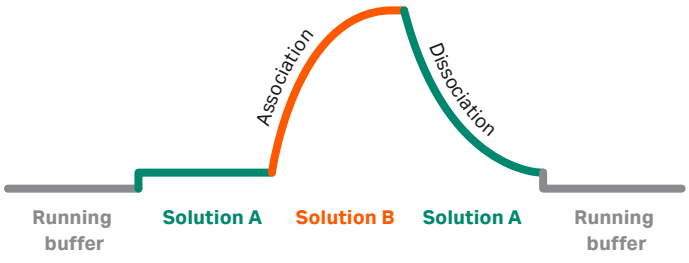

Fig 10. The ***ABA*** command allows two different solutions to be injected over the sensor surface in the same cycle in the following order: Solution A, Solution B, then Solution A.

With the ***Poly*** command, Biacore™ Insight Software gives you new possibilities for studies of protein complexes — including those formed by multivalent molecules such as PROTACs (Proteolysis targeting chimeras) and their binding partners. The ***Poly*** command enables the injection of three to five solutions in sequence with no intermediate washing steps (Fig 11, 12).

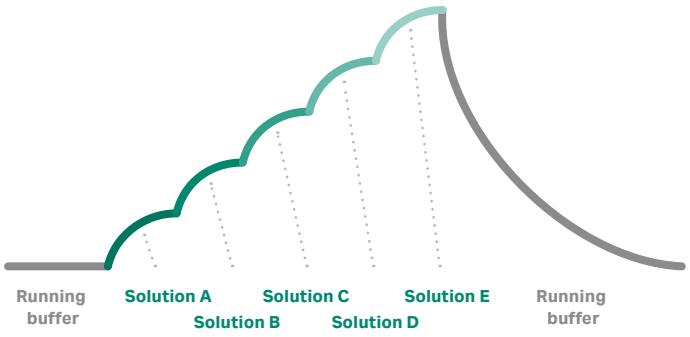

Fig 11. The ***Poly*** command enables multi complex formation by injection of three to five solutions (Solution A to Solution E) in sequence with no intermediate washing steps.

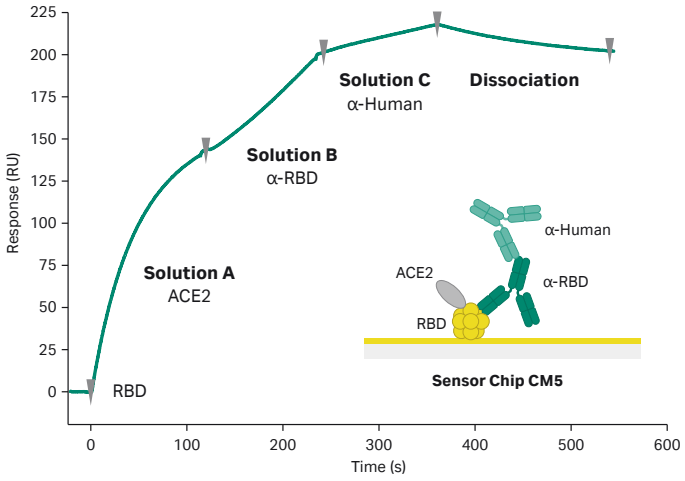

Fig 12. ***Poly*** command used as a tool to study protein complex formation. The Receptor Binding Domain (RBD) of the viral spike glycoprotein SARS-CoV-2 was coupled on Sensor Chip CM5. We used the ***Poly*** command with 3 injections to inject the ACE2 human receptor (Solution A), a monoclonal antibody against RBD (Solution B) and a mouse anti-human IgG (Fc) antibody (Solution C).

Optimized injection design

Biacore™ 1 series systems are designed to consume less of your sample compared to Biacore™ T200 and Biacore™ S200. For a 2 min injection used in a kinetic experiment, Biacore™ 1 series systems use 103 µL of sample compared to 118 µL in Biacore™ T200 and Biacore™ S200 — saving you 15 µL (13%).

Fast and flexible exploratory studies

The ***Interactive run*** workspace within Biacore™ Insight Control Software lets you take full control of the instrument while providing immediate feedback. In contrast to run methods, cycles are not defined in advance. Instead, you add commands and make decisions based on the result of previous injections, thereby building up the cycle as the run is proceeding. ***Interactive run*** is well suited for:

- confirmation of surface activity after ligand attachment.
- quick tests, such as testing whether new analytes can bind, or comparing a small group of analytes.
- assay development for finding suitable concentration spans, injection times, and regeneration procedures.
- training and demonstration of Biacore™ 1 series systems.

In Biacore™ 1 series systems, ***Interactive run*** data has full evaluation support, including kinetic fitting, giving a first value of affinity in your very first run (Fig 13).

Fig 13. Example of an ***Interactive run***. Each cycle contains an analyte injection (variable concentration) and a regeneration step. The full data set (7 cycles) was then fitted to a 1:1 model in Biacore™ Insight Evaluation Software (data not shown). (Analyte: beta2microglobulin. Ligand: Anti-beta2microglobulin amine coupled to Sensor Chip CM5).

Queue up methods to free up time and save sensitive samples

To maximize instrument usage, utilize the ***Activity queue*** feature in Biacore™ Insight Control Software. The steps you usually take during analysis on a Biacore™ SPR instrument, from changing buffer solutions, chip docking, immobilization methods, analysis methods, temperature changes to cleaning procedure can be added to the ***Activity queue*** — which minimizes unnecessary waiting times. For automatic control of the ligand attachment levels, ***Immobilization checkpoint*** can be added to the ***Activity queue***. This function reduces the need of manual confirmation of adequate immobilization prior to analysis by comparing the surface immobilization levels with acceptance criteria entered by the user. If any results fall outside the acceptance criteria, the ***Activity queue*** is paused, and user input is required to resume or stop the ***Activity queue***. If results are within the acceptance criteria, the ***Activity queue*** continues with subsequent activities (Fig 14).

Following start of the ***Activity queue***, remaining samples and reagents can be prepared while instrument is running. Run status display helps you further plan lab time.

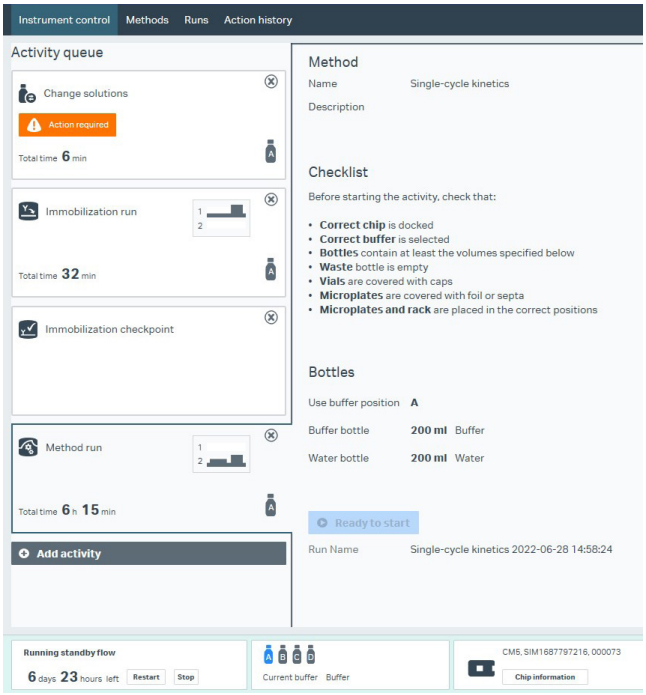

Fig 14. ***Activity queue*** lined up with ***Change solutions***, ***Immobilization run***, ***Immobilization checkpoint*** followed by a Biacore Single Cycle Kinetics (SCK)™ method run.

When working with sensitive samples, the ***Activity queue*** and the temperature-controlled sample hotel is a powerful combination that lets you save sample, time, and costs. Assays using surfaces with sensitive ligands can be queued up in a time efficient manner overnight or over the weekend. Sensitive analytes requiring extensive sample preparation to maintain stability can be loaded in plates and stored in the sample hotel at 4° until analysis.

The queueing ability is maximized in Biacore™ 1K+ and Biacore™ 1S+, both instruments are equipped with a buffer selector and room for two micro plates and two reagent racks.

No programming skills needed

Biacore™ Insight Control Software comes with predefined run methods covering a wide range of applications. The predefined methods provide built-in knowledge and guidance on run settings such as sample run order, suitable intervals for control samples, injection times and concentrations. These methods can be used as-is or serve as a good starting point that you can modify and save as you develop your assay.

Automated and standardized evaluation of SPR data

Biacore™ Insight Evaluation Software enables evaluations to be performed with just a few clicks. It is equally suited for the rapid analysis of large screening campaigns as well as deep kinetic characterization of a single interaction, epitope binning experiments, or reproducible quantitation of your valuable samples. Generic tools scale with the size of your experiment rendering fast results you can trust, regardless of the number of samples analyzed. The flexible interface is configurable to maximize the space for your most important tasks at any time.

- Speed up your data evaluation and time to decision with our ready-to-run, and application specific methods.
- Design your data overview of sensorgrams, on-off plot or both.
- Save time and avoid repetitive tasks by saving relevant evaluation parameters with the method for future work.

Biacore™ Insight Software is a flexible analysis platform that grows with your project needs via optional, add-on application specific software extensions to maximize platform versatility, improve visualization and decrease your time to result.

Biacore™ Insight Epitope Binning extension empowers automated identification and control to maintain unique and diverse epitopes, which contributes to broader intellectual property protection. A common issue in epitope binning is low affinity of the binding between the antigen and first antibody, which results in dissociation of the antigen and underestimation of binding level of the second antibody. To help overcome this issue, the antigen and second antibody may be injected using ***Dual*** command described earlier.

Biacore™ Insight Concentration and Potency extension facilitates reproducible and robust concentration determinations and enables seamless determination of drug potency and parallel line analysis (PLA) without the need for tedious data import/export between different software.

Visualize your SPR data

The flexible result export feature in Biacore™ Insight Evaluation Software provides the means to export selected, or comprehensive data for continued data processing, result reporting, or storage in the company database.

You can transfer data into Microsoft® PowerPoint® format (Fig 15) and modify the presentation of your data using the extensive tool set and layouts in the presentation application — this makes it easy to share data with your colleagues and peers. Additional export options, JSON and XML format, are available in Biacore™ Insight Data Integration Extension.

The combination Biacore™ SPR instrument and Biacore™ Insight application-specific software extensions provide support from run setup to data evaluation and bring new ways to visualize your data.

Fig 15. The flexible result export feature in Biacore™ Insight Evaluation Software lets you export selected or comprehensive data for continued data processing, result reporting, or storage in a shared database. You can export data in Microsoft® Excel®, PDF, and Microsoft® PowerPoint® format. In this example you can see a streamlined analysis of a kinetics experiment as a presentation in slide format.

Support for working in regulated environment

Cytiva has a comprehensive offering to support the use of Biacore™ systems for interaction analysis in a regulated environment. The optional products and services that can be used in combination with Biacore™ 1 series and Biacore™ 8 series systems are:

- Biacore™ Insight GxP extension: a software extension that enables operations in compliance with current GxP regulations and is specifically designed with a high level of built-in support for 21 CFR Part 11 compliance. Features include ***Data integrity***, ***User authorization levels***, ***Audit trail***, ***Version history***. ***Electronic signatures*** are used for and approval of regulated procedures for run and evaluation of data and for approval of evaluated results.
- Validation support package: a system assessment report, conformance certificates, and Biacore™ Insight GxP Handbook with recommendations for system setup considering 21 CFR Part 11 compliance.
- Change Control Notification Service: a subscription service allowing users to be notified of system changes, giving increased process robustness in regulated environments.
- Cytiva's OptiRun™ Qualification Service: ensures that systems are kept in a qualified state throughout their lifetime.

For more details, please see the Compliance tools for Biacore™ systems for implementation and use in regulatory environment.

Biacore™ consumables for reproducible data with minimal time and effort

Biacore™ 1 series systems operate using the extensive range of Biacore™ Series S sensor chips, which offer support for analysis of a wide range of interactions. A variety of capture kits offer several options for capturing the most common antibodies and tags to significantly reduce the time and effort you need to spend on developing your assay. Predefined methods in Biacore™ Insight Control Software are preloaded with application relevant default settings are available for all major assays. Experiments using predefined methods and Biacore™ consumables can be started in minutes.

The range of Biacore™ consumables also includes coupling kits, with selected reagents for stable, covalent attachment of the ligand to the surface. Convenient, ready-made buffers and solutions developed and verified to work in Biacore™ systems are also available to further enhance analysis efficiency.

Join our family, Biacore™ SPR community

As an owner of a Biacore™ system, you are connected to a world of knowledge and experience in interaction analysis. A Biacore™ system comes with professional local application support from highly skilled, experienced application scientists. These scientists can help you to get the most out of your Biacore™ system in all applications.

Thousands of Biacore™ systems are installed globally and over 60 000 scientific articles are published in peer-reviewed journals.

All Biacore™ users are invited to share their experiences and learn more at regional user days, Developments in Protein Interaction Analysis (DiPIA) conferences and on LinkedIn, Biacore™ SPR community.

Our instrument service is performed by specially trained service experts available close to you. They can help improve efficiency by minimizing system downtime. Streamlined maintenance of your equipment and fast response times let you focus on your work to deliver reliable binding analysis results.

Systems specifications

Technical specifications and characteristics

Detection technology	Surface plasmon resonance (SPR) biosensor
Information provided	Kinetic and affinity data (k_a, k_d, K_D), specificity, selectivity, screening data, epitope binning, concentration and relative potency data
Data presentation	Monitoring of real-time sensorgrams or evaluation data for result tables and result plots
Analysis time per cycle	Typically 2 to 15 min
Automation	60 h unattended run time for Biacore™ 1K
	72 h unattended run time for Biacore™ 1K+ and Biacore™ 1S+
Sample type	Small molecule drug candidates to high molecular weight proteins (also DNA, RNA, polysaccharides, lipids, cells, and viruses) in various sample environments (e.g., in DMSO-containing buffers, plasma, and serum)
Required sample volume	Injection volume plus 20 to 40 µL (application-dependent)
Injection volume	1 to 400 µL
Flow rate range	1 to 100 µL/min
Flow cell volume	60 nL
Flow cell height	50 µm
Data collection rate	1 or 10 Hz for Biacore™ 1K and Biacore™ 1K+
	1, 10 Hz or 40 Hz for Biacore™ 1S+
Sample/reagent capacity	1 × 96- or 384-well microplate, normal, and deep-well
	1 × reagent rack with 21-43 positions compatible with 0.7-4.4 mL vials (Biacore™ 1K)
	2 × 96- or 384-well microplates, normal, and deep-well
	2 × reagent racks with 21–43 positions compatible with 0.7–4.4 mL vials (Biacore™ 1K+ and Biacore™ 1S+)
Typical run times	Clean screen (384-well plate): 6 h
	Binding level screen (384-well plate): 15 h
	Affinity screen (384- samples): 27 h
	Kinetic analysis (30 samples): 15 h
	Concentration analysis (24 samples): 3h
	Epitope binning, 5 × 5 array (25 samples): 1.5 h
Analysis temperature range	25°C to 37°C for Biacore™ 1K and Biacore™ 1K+
	4°C to 40°C for Biacore™ 1S+ (at least 20 °C below ambient temperature)
Sample storage	4°C to 37°C for Biacore™ 1K and Biacore™ 1K+ (at least 18°C below ambient temperature)
	4°C to 40°C for Biacore™ 1S+ (at least 18°C below ambient temperature)
Sample refractive index range	1.33 to 1.39
In-line reference subtraction	Automatic
Number of flow cells	6 in 1 channel
Dimensions (W × H × D)	755 × 725 × 666 mm
Net weight total	95 kg (Biacore™ 1K) 96 kg (Biacore™ 1K+ and Biacore™ 1S+)
Mains requirements	Processing unit: Autorange voltage 100 to 240 V~, frequency 50/60 Hz
Power consumption	Processing unit: max. 350 VA

Minimum computer requirements

CPU with at least four cores
At least 16 GB internal memory
At least 200 GB free hard disk space
Screen resolution at least 1920×1080
One USB2 port available for instrument connection

Minimum network SQL Server requirements

See recommendations from Microsoft® regarding hardware and operating systems.
Uninterrupted power supply

Typical working ranges

Association rate constant (k_a)	Proteins: up to 3×10^9 M^{-1} s^{-1}
	LMW molecules: up to 5×10^7 M^{-1} s^{-1}
Dissociation rate constant (k_d)	10^{-6} to 1 s^{-1} for Biacore™ 1K and Biacore™ 1K+
	10^{-6} to 6 s^{-1} for Biacore™ 1S+
Sample concentration	≥ 1 picomolar (pM)
Molecular weight detection	No lower limit for organic molecules
Short term noise typically	< 0.03 RU (RMS) for Biacore™ 1K and Biacore™ 1K+
	< 0.01 RU (RMS) for Biacore™ 1S+
Baseline drift typically	< 0.3 RU/min
Blank subtracted drift	< +/-0.003 RU/min
Immobilized interactant consumption	Typically 0.03 to 3 µg/flow cell

Data handling and storage	
Operating system	Windows® 10 (Professional or Enterprise), 64-bit, English version Note: The functionality of Biacore™ Insight Software and Biacore™ system is verified using an English version of Windows®. Other languages can cause issues.
Interfacing	Import of sample data and export of results possible
Licenses	Multiple licenses available
Server requirements	Includes SQL Server Express 2019. Security and performance improvements are seen with SQL Server Standard or SQL Server Enterprise 2017, or 2019 (available separately from Microsoft®)

Notes: The server is supplied by the end user. Contact your local representative for the latest information regarding on-site requirements.

Compliance	
Compliant with	CE, cETLus, EAC, FCC, ICES-001, KC, RCM, UKCA
Safety	IEC/EN/UL/CSA-C22.2 61010-1, IEC/EN/UL/CSA-C22.2 61010-2-081, EN ISO 12100
Electromagnetic compatibility (EMC)	EN/IEC 61326-1, FCC Part 15 B, ICES-001
Environmental	EN 63000, China RoHS

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