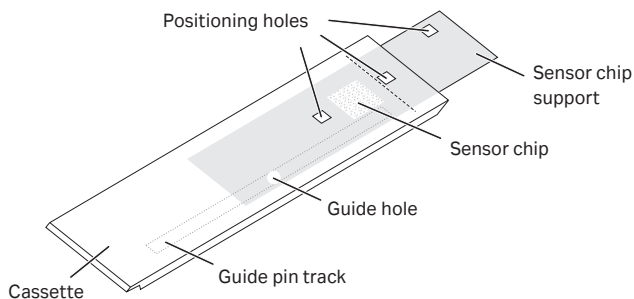


Sensor Chip Protein A

Instructions for Use

Product description

Product code:	29127558 (Package of three sensor chips) 29127557 (Package of one sensor chip)
Storage:	The use-before date applies to chips stored at 2°C to 8°C in unopened pouches.



The sensor chip is fixed to a polystyrene support. Each cassette, consisting of a sensor chip and support assembly, is individually packed under a nitrogen atmosphere in a sealed pouch.

Note: For research use only.

Application areas

Sensor Chip Protein A is designed to bind human antibodies and Fc-tagged molecules for analysis in Biacore™ systems. The surface has a wide range of applications, such as kinetics, affinity, concentration, potency, and antibody screening.

Sensor Chip Protein A consists of a carboxymethylated dextran matrix pre-immobilized with a recombinant Protein A. The pre-immobilized molecule is the same as in MabSelect SuRe™ affinity chromatography products from Cytiva, which are commonly used in development and manufacturing of therapeutic antibodies.

Sensor Chip Protein A provides a ready-to-use means for convenient binding of antibodies and Fc-tagged molecules.

Refer to [cytiva.com/biacore](https://www.cytiva.com/biacore) for updates on applications and scientific publications.

Surface specificity

In contrast to native Protein A, the recombinant variant on the surface of Sensor Chip Protein A binds the heavy chain **only** within the Fc region of antibodies from several mammalian species, most notably human antibodies of the subclasses IgG₁, IgG₂, and IgG₄.

Preparations for Use

Sensor chip

Step	Action
1	Allow the sealed sensor chip pouch to equilibrate at room temperature for 15 to 30 minutes in order to prevent condensation on the chip surface.
2	Prepare the Biacore instrument with running buffer. The buffer should be filtered (0.22 µm), and degassed for systems that do not have an integrated buffer degasser. Note: <i>Filtration is not necessary when using running buffers provided by Cytiva.</i>
3	Open the sensor chip pouch. Make sure that the sensor chip support remains fully inserted into the cassette to protect the chip from dust particles.
4	Dock the sensor chip in the instrument as described in the instrument handbook. Note: <i>Sensor chips that are not docked in the instrument should be stored in closed containers.</i>

Recommended running conditions

Running buffer

HBS-EP+, available from Cytiva, is generally recommended as running buffer.

Start-up cycles

For best assay performance, run at least one start-up cycle using identical settings as for the analysis cycles, including reagents and regeneration injections.

Antibody injection

Inject antibody diluted to 1 to 10 µg/mL. Contact time and flow rate generally vary between 1 to 3 minutes and 10 to 30 µL/min, respectively, depending on the application.

Antigen injection

Contact time and flow rate generally varies between 1 to 3 minutes and 10 to 30 µL/min, respectively. Suitable antigen levels depend on the application.

Regeneration

Regenerate the surface with one 30-second injection of 10 mM glycine-HCl pH 1.5 at a flow rate of 10 to 30 µL/min. This will remove bound antibodies together with any analyte bound to them.

Alternative regeneration procedures are as follows:

- Repeated injections of the regeneration solution 10 mM Glycine-HCl, pH 1.5
- An additional injection of 4 M MgCl₂
- An additional injection of 50 mM NaOH

Avoid using basic regeneration solution, if possible.

Note: *Exposure to basic conditions can impair assay performance by introducing a slight drift in the assay.*

Note: *A slight increase in baseline between cycles can be observed during the course of an assay. This does not impair performance.*

Refer to *Biacore Sensor Surface Handbook* for more detailed information on regeneration strategies.

For more information on running conditions for different applications, guides, lab protocols, and free eLearnings, visit [cytiva.com/biacore](https://www.cytiva.com/biacore).

Storage and reuse of Sensor Chip Protein A

Storage

Sensor Chip Protein A can be undocked and stored for up to 1 month after opening the package. Follow the steps below to undock and store the chip consecutively with no waiting time in between.

Step	Action
1	Undock the sensor chip and remove it from the instrument.
2	Remove the sensor chip support from the cassette with a pair of tweezers. Avoid touching the support with your fingers.
3	Place the support in a 50 mL tube containing buffer so that the support is completely covered. Cap the tube securely and store it in a refrigerator.

Note:

Wet storage in HBS buffer at 2°C to 8°C is recommended.

For further details on chip storage, refer to *Biacore Sensor Surface Handbook*.

Reuse

Follow the steps below to reuse Sensor Chip Protein A consecutively with no waiting time in between.

Step	Action
1	Take the support out of the tube using a pair of tweezers. Avoid touching it with your fingers.
2	Rinse the support with distilled water and shake it gently to remove most of the water.
3	Wipe the support and the glass side of the sensor chip dry with a lint-free tissue or dry with pressurized oil-free air or nitrogen. Do not wipe or dry the sensor surface itself. The glass sensor chip is fixed on the support so that the sensor surface is recessed with respect to the support.
4	Reinsert the support into the cassette with the glass side towards the label on the cassette. Do not force the support into the cassette. Insert the sensor chip in the instrument and dock it. Equilibrate the system with buffer by running the Change solutions or Prime command depending on the Biacore SPR system.

Chemical resistance

The surface of Sensor Chip Protein A is resistant to 1-minute pulses of many commonly used agents.

Agent	Concentration
Acetonitrile	30%
DMSO	10%
DTE	0.1 M
EDTA	0.35 M
Ethanol	40%
Ethanolamine	1 M
Ethylene glycol	100%
Formamide	40%
Formic acid	20%
Glycine-HCl pH 1.5 to 3.0	100 mM
Glycine-NaOH pH 9.5 (BIAdesorb Solution 2)	50 mM
Guanidine hydrochloride	6 M
HCl	100 mM
Imidazole	300 mM
MgCl ₂	4 M
NaOH	100 mM
NaCl	5 M
SDS (BIAdesorb Solution 1)	0.5%
Surfactant P20	5%
Urea	8 M



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