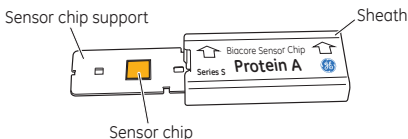


# Series S Sensor Chip Protein A

## Product description

- Order code: 29127556 (package of three sensor chips)  
29127555 (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 sheath. Each cassette, consisting of a sensor chip and sheath assembly, is individually packed under a nitrogen atmosphere in a sealed pouch.

**Note:** For *in vitro* use only.



## Application areas

Series S Sensor Chip Protein A is designed to bind human antibodies for analysis in Biacore systems. The surface has a wide range of applications, but is optimized for concentration analysis, e.g., in biopharmaceutical process development, manufacturing and QC. Series S 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 GE, which are commonly used in development and manufacturing of therapeutic antibodies.

Series S Sensor Chip Protein A provides a ready-to-use means for convenient determination of antibody concentration, using a calibration curve, in samples such as cell culture media and chromatography fractions. Although this Instructions For Use is focused on concentration analysis, Series S Sensor Chip Protein A works in other Biacore applications as well.

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

## Surface specificity

In contrast to native Protein A, this recombinant variant on the surface of Series S 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 IgG<sub>1</sub>, IgG<sub>2</sub>, and IgG<sub>4</sub>.

## 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 $\mu\text{m}$ ), and degassed for systems that do not have an integrated buffer degasser.
3	Open the sensor chip pouch. Make sure that the sensor chip support remains fully inserted into the sheath at all times to protect the chip from dust particles.
4	Dock the sensor chip in the instrument as described in the instrument handbook.

**Note:**

*Sensor chips that are not docked in the instrument should be stored in closed containers.*

### Samples

A dilution of samples 10 times in running buffer prior to analysis is usually sufficient to adjust for differences in sample conditions. Samples in buffers with very low pH may however need a higher dilution factor in order to adjust for differences in pH.

As a rule of thumb, aim for neutral pH in samples to be analyzed as the interaction characteristics are tolerant to differences in salt concentration at neutral pH.

## Analysis temperature

Series S Sensor Chip Protein A is designed for use at 25°C.

## Start-up cycles

For best assay performance, run at least one start-up cycle using sample or buffer as analyte and identical settings as for the analysis cycles.

## Analysis

Interaction analysis is performed by injection of samples over the sensor chip surface. Analyte molecules in the injected sample bind directly to the pre-immobilized recombinant Protein A. A 30 second injection of sample is typically suitable for concentration measurements in the range 1 to 50 µg/ml. The contact time can be used to adjust to different measuring ranges.

## Regeneration

Regenerate the recombinant Protein A surface by removing the analyte from the surface with one 30 second injection of 10 mM Glycine-HCl, pH 1.5.

Alternative regeneration procedures are: a repeated injection of the regeneration solution 10 mM Glycine-HCl pH 1.5, or an additional injection of 4 M MgCl<sub>2</sub> or 50 mM NaOH. However, avoid using basic regeneration solution if possible. In some cases, exposure to basic conditions has been seen to impair assay performance by introducing a slight drift in the assay.

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

Refer to *Biacore Sensor Surface Handbook* (order code BR100571) for more detailed information on regeneration strategies.

Refer to *Biacore Concentration Analysis Handbook* (order code BR100512) and [www.gelifesciences.com/biacore](http://www.gelifesciences.com/biacore) for more detailed information on how to set up concentration analysis using a calibration curve.

## Storage and re-use of Series S Sensor Chip Protein A

Series S Sensor Chip Protein A may be undocked and stored for at least one month after opening the package. Wet storage in HBS buffer at 2°C to 8°C is recommended.

Refer to *Biacore Sensor Surface Handbook* for details of chip storage.

## Chemical resistance

The surface of Series S 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 <sub>2</sub>	4 M
NaOH	100 mM
NaCl	5 M
SDS (BIAdesorb Solution 1)	0.5%
Surfactant P20	5%
Urea	8 M

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