

BIAmaintenance Kit

Instructions for Use

Product description

Product code: 29394521

Kit components: BIAmaintenance Kit contains the following components.

Component	Description
One bottle of Biacore™ test solution, 65 mL	15% (w/w) sucrose in HBS-EP buffer
One bottle of BIAnormalizing solution (40%), 30 mL	40% (w/w) glycerol
One bottle of BIAnormalizing solution (70%), 30 mL	70% (w/w) glycerol
One bottle of BIAdesorb solution 1, 90 mL	0.5% (w/v) sodium dodecyl sulphate (SDS)
One bottle of BIAdesorb solution 2, 90 mL	50 mM glycine-NaOH, pH 9.5
One Sensor Chip Maintenance	Sensor Chip Maintenance
One storage tube	Empty tube with stand to store disinfectant solution

Additional materials required:

- Sensor Chip CM5 (BR100399, BR100012, or 29149604).
- HBS-EP+ 10× buffer (BR100826 or BR100669). Dilute 1+9 (v/v) with deionized, 0.2 µm filtered water to make the running buffer.
- Sodium hypochlorite, 10% to 15%.

Storage:

Store kit at 2°C to 8°C, except BIAdesorb solution 1.

BIAdesorb solution 1 should be stored at room temperature (SDS precipitates at low temperature).

Kit capacity:

The solutions in the kit are sufficient for at least 6 months of normal use.

Safety:

For use and handling of the BIAmaintenance Kit in a safe way, refer to the Safety Data Sheet.

Intended use

BIAmaintenance Kit is intended to be used with the maintenance and testing procedures in Biacore C, Biacore X100, and Biacore 3000 systems. For more information, refer to the respective instrument handbook.

Software procedures are identified by **bold italic** text.

The table below shows the procedures to use with BIAmaintenance Kit and their recommended frequency.

Procedure	Purpose	Frequency
<i>Desorb</i>	Clean the flow system	Weekly
<i>Desorb and sanitize</i>	Disinfect the flow system	Monthly
<i>Normalize</i>	Normalize the detector	Monthly or if requested by service Note: <i>Not required for Biacore X100</i>
<i>System check</i>	Check the instrument performance	Monthly or if requested by service

Note: For research use only.

Clean the flow system

Make sure that the running buffer is compatible with BIAdesorb solution 1 before cleaning the flow system. Do not use running buffer with additives containing metal ions as SDS in BIAdesorb solution 1 will precipitate with some common metal ions including potassium and magnesium.

Follow the steps below to clean the flow system.

Step	Action
1	Set the analysis and sample compartment temperatures to 25°C. Note: <i>SDS in BIAdesorb solution 1 can precipitate at low temperature.</i>
2	Prepare BIAdesorb solutions 1 and 2 in vials or bottles. Refer to the respective instrument handbook for more details.
3	Make sure that the surface of the Sensor Chip Maintenance is clean before use. If needed, rinse with water. Wipe the glass and support dry with a lint-free tissue. Note: <i>Store Sensor Chip Maintenance in the enclosed plastic bag when not inserted in the system.</i>
4	Insert Sensor Chip Maintenance into the docking station.
5	Run Desorb and follow the instructions on the screen.

Disinfect the flow system

Sodium hypochlorite solution

Sodium hypochlorite, 10% to 15% is used to prepare the disinfectant solution used in **Desorb and sanitize**. The following products are recommended.

Product name	Contents	Manufacturer	Product Code
Sodium hypochlorite, 10% to 15%	500 mL	Acros Organics, part of Thermo Fisher Scientific	219255000
Sodium hypochlorite, 10% to 15%	500 mL	Alfa Aesar, part of Thermo Fisher Scientific	33369 ¹

¹ Contact the manufacturer and ask for the date of quality control of a certain lot.

Note: *The active chlorine concentration decreases with time. Do not use hypochlorite product longer than 12 months after the date of quality control to make sure that the concentration is sufficient for disinfection. The quality control date is stated in the Certificate of Analysis for the product.*

Disinfectant solution

The disinfectant solution used in **Desorb and sanitize** is sodium hypochlorite solution, 0.6% to 1.0%. This is prepared from sodium hypochlorite, 10% to 15% described above.

Prepare the disinfectant solution in multiples of 21.5 mL according to the following table. Mix and use within 12 hours.

Sodium hypochlorite, 10% to 15% (mL)	Distilled and filtered water (mL)	Total volume (mL)
1.5	20	21.5
3.0	40	43
6.0	80	86

The total consumption of sodium hypochlorite solution can be found in the handbook of the respective instrument and is stated in a software dialog box when starting the procedure.

Disinfect the flow system

Make sure that the running buffer is compatible with BIA desorb solution 1 before cleaning the flow system. Do not use running buffer with additives containing metal ions as SDS in BIA desorb solution 1 will precipitate with some common metal ions including potassium and magnesium.

Do not use plain water as running buffer. Water rinses sodium hypochlorite insufficiently compared to running buffer. Residues of sodium hypochlorite can damage sensor chips.

Follow the steps below to disinfect the flow system.

Step	Action
1	Set the analysis and sample compartment temperatures to 25°C. Note: <i>SDS in BIA desorb solution 1 can precipitate at low temperature.</i>
2	Prepare BIA desorb solutions 1 and 2, and disinfectant solution in vials or bottles. Refer to the respective instrument handbook for more details.
3	Make sure that the surface of the Sensor Chip Maintenance is clean before use. If needed, rinse with water. Wipe the glass and support dry with a lint-free tissue. Note: <i>Store Sensor Chip Maintenance in the enclosed plastic bag when not inserted in the system.</i>
4	Insert Sensor Chip Maintenance into the docking station.
5	Run Desorb and sanitize and follow the instructions on the screen. Note: <i>Be careful when removing flow tubing from the disinfectant solution to avoid splashing.</i>
6	After completion of the procedure, run running buffer in standby mode for at least 3 to 4 hours to achieve a stable baseline, particularly if maximum sensitivity in measurement is required.

Normalize the detector

Note: *This procedure is not required in Biacore X100.*

Make sure to use the correct BIA normalizing solution for your system. BIA normalizing solution (40%) should be used with Biacore C, and BIA normalizing solution (70%) should be used with Biacore 3000. Discard the bottle that is not intended for your instrument.

Follow the steps below to normalize the detector.

Step	Action
1	Set BIA normalizing solution to room temperature.
2	Insert new sensor chip into the docking station.
3	Run Normalize and follow the instructions on the screen.

Check the instrument performance

Follow the steps below to check the performance of the instrument.

Step	Action
1	Make fresh HBS-EP+ running buffer. Note: <i>A fresh dilution and accurate concentration of the running buffer is important for correct test results.</i>
2	Prepare Biacore test solution in vials or bottles. Refer to the respective instrument handbook for more details.
3	Insert Sensor Chip CM5 into the docking station. Note: <i>Do not use Sensor Chip Maintenance for System check.</i>
4	Run System check and follow the instructions on the screen.

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