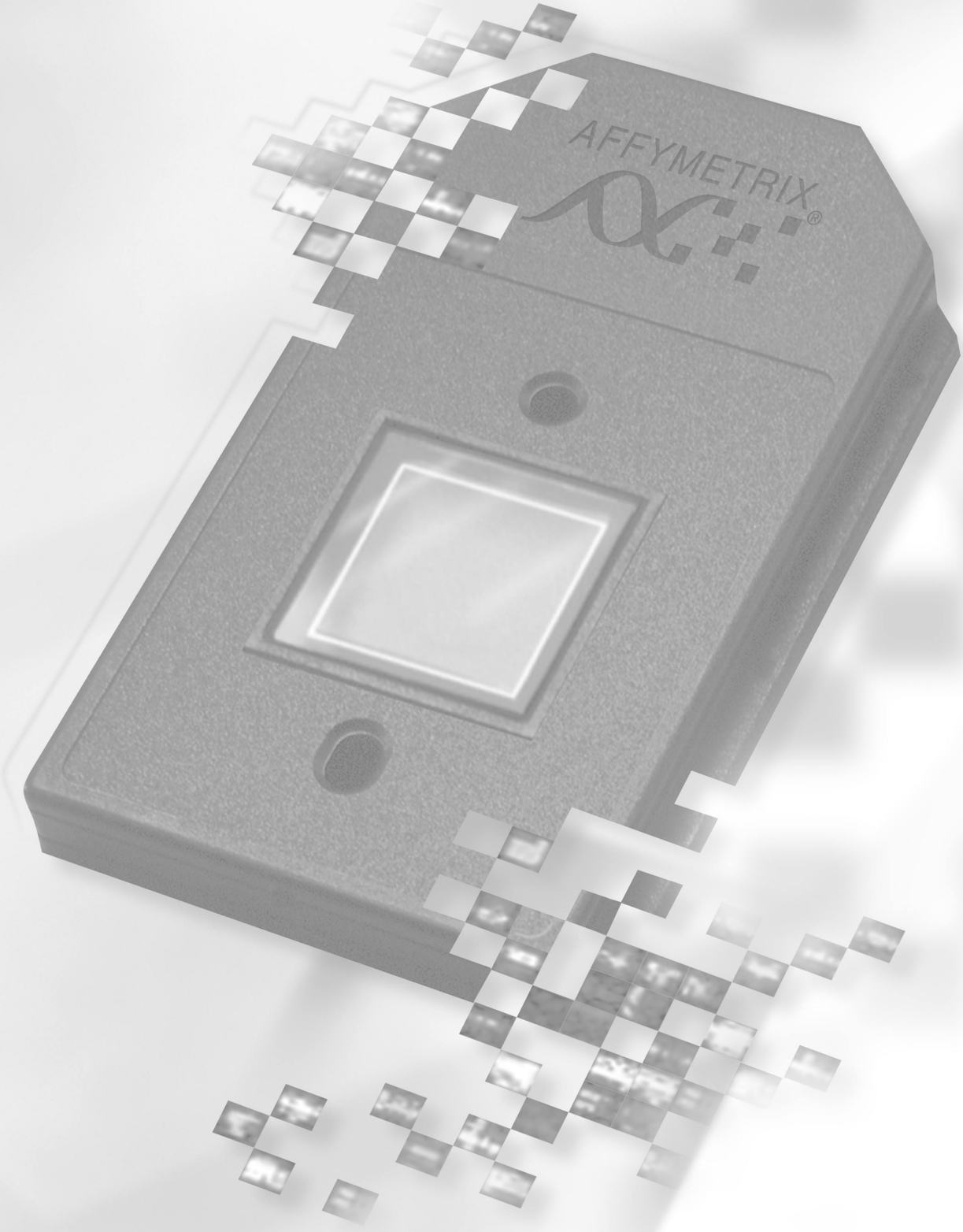
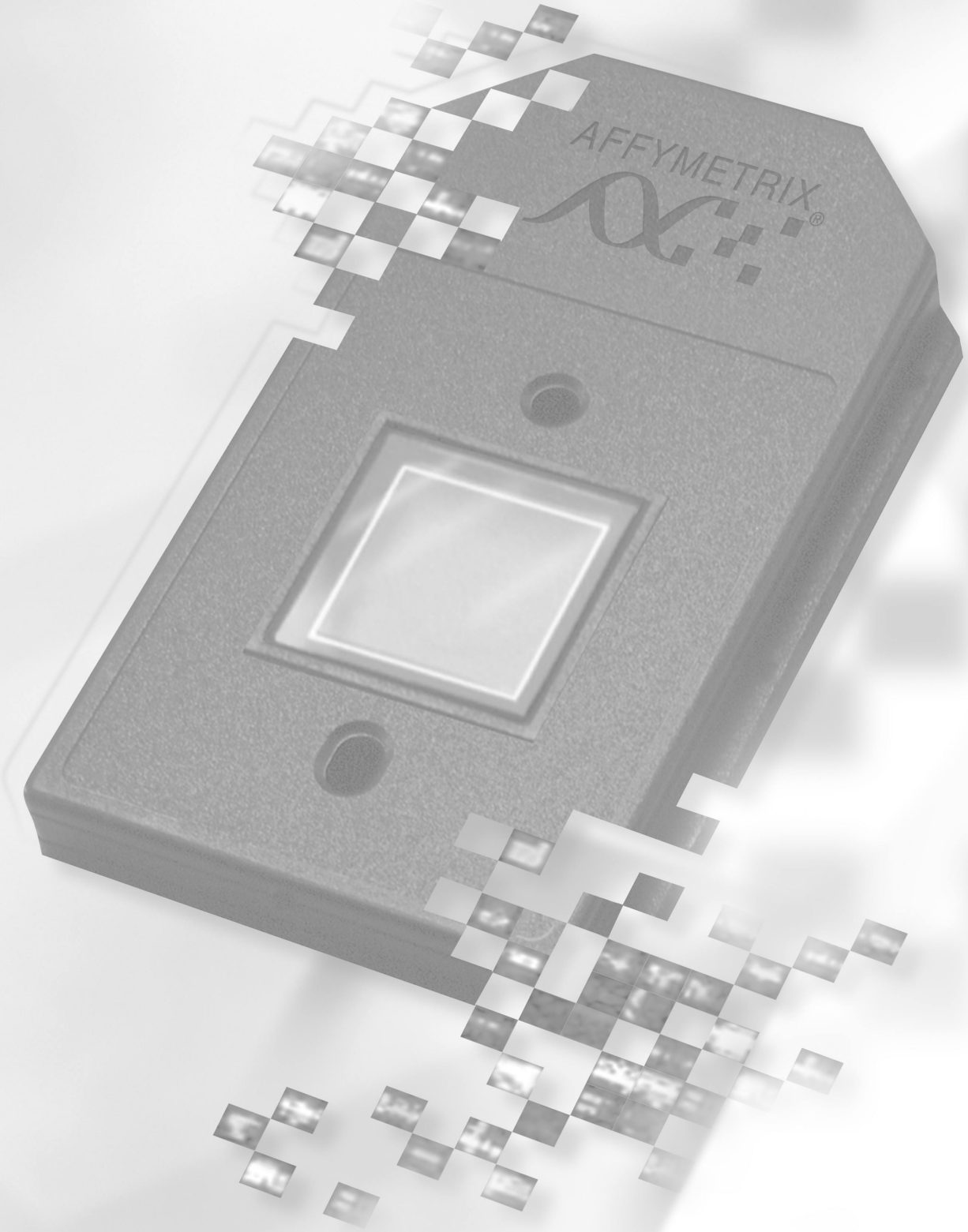
Section 4:

Fluidics Station Maintenance Procedures



Section 4



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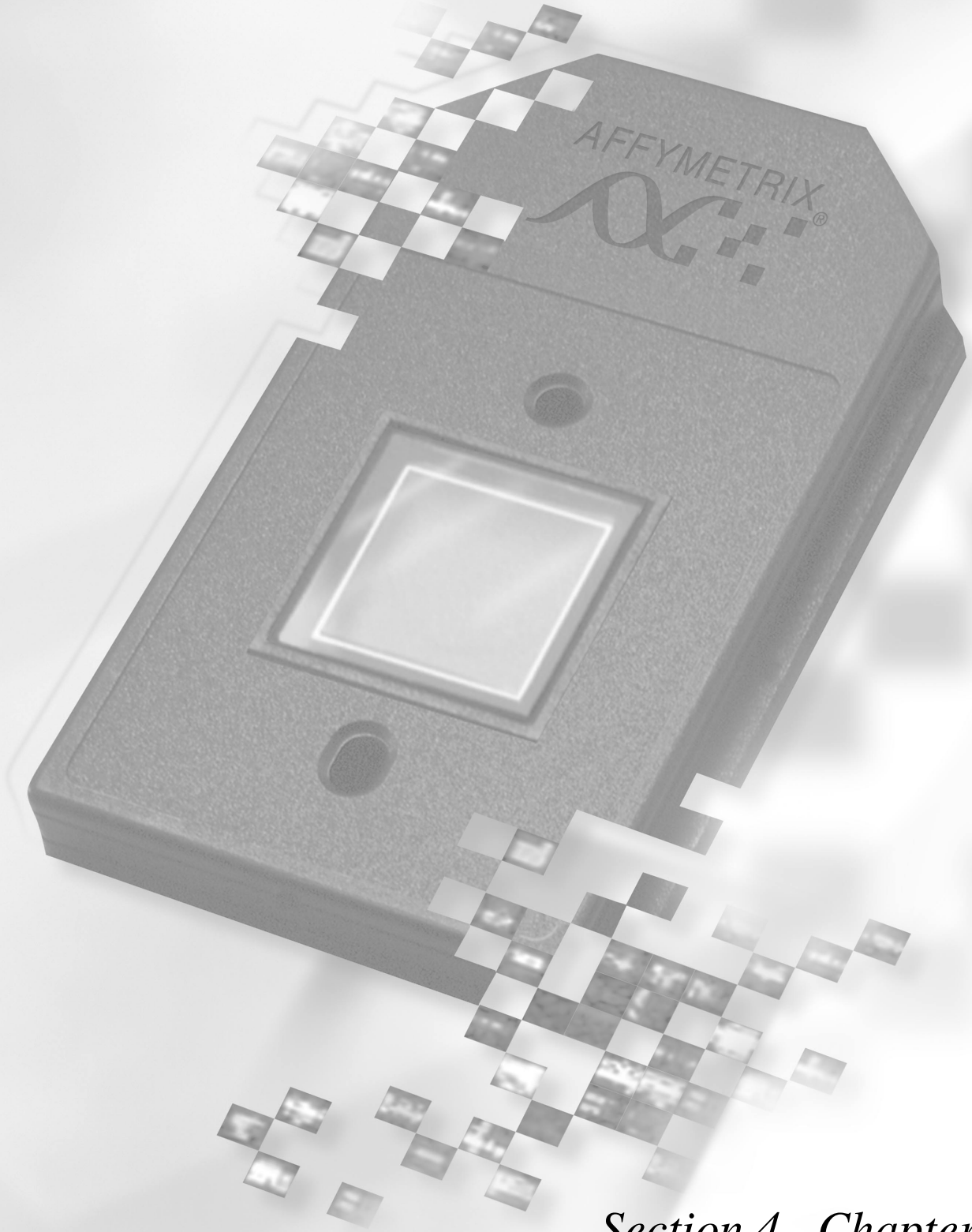

F.S. Maintenance

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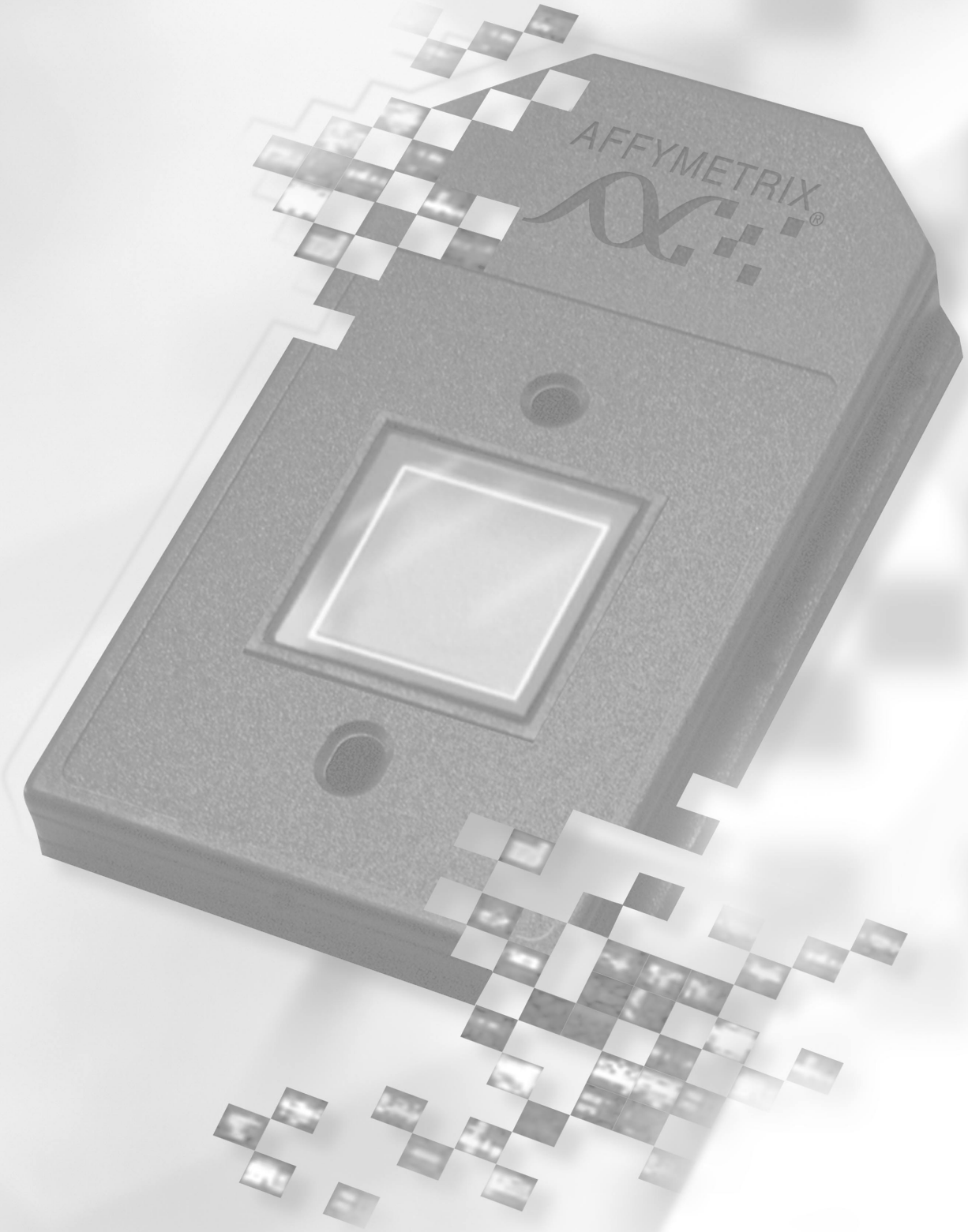

Fluidics Station Maintenance Procedures

Weekly Fluidics Station Cleanout 4.1.4
Bleach Protocol 4.1.4
Monthly Fluidics Station Decontamination Protocol 4.1.5

This Section Contains:

- A weekly fluidics station bleach protocol.
- A monthly fluidics station decontamination protocol.

Weekly Fluidics Station Cleanout

A cleaning protocol is recommended for fluidics station maintenance if the antibody staining procedure is used. Choose **Bleach** for all modules from the drop-down list in the Fluidics Station dialog box. Click the **Run** button for all modules and follow LCD instructions.

Bleach Protocol

This protocol is designed to eliminate any residual SAPE-antibody complex that may be present in the fluidics station tubing and needles. We recommend running this protocol at least once a week.

1. Prepare 1 liter of 0.525% sodium hypochlorite solution using distilled water. Shake well.

✔ Note — *Each fluidics station with four modules requires at least 200 mL of the 0.525% sodium hypochlorite solution.*

2. Cut at least two feet of tubing (Tygon tubing, 0.04”) for each module of each fluidics station. These can be reused for subsequent BLEACH runs.
3. Place all three wash lines of each fluidics station in 1 liter of distilled water.

✔ Note — *The BLEACH protocol requires at least 550 mL of distilled water.*

4. Choose **Fluidics** from the **Run** menu. Alternatively, click the down arrow Protocol list on the toolbar.
5. Choose **Bleach** for the respective modules in the **Protocol** drop-down list.
6. Disengage washblock for each module.

✔ Note — *Temperature will ramp up to 50°C.*

7. Connect one end of the plastic tubing to the needle at the bottom of each module and insert the other end into 0.525% sodium hypochlorite solution (at least 200 mL for all four modules).
8. **ENGAGE** washblock. The fluidics station will empty the lines and perform three cleaning cycles of 10 rinses each using bleach solution.
9. When the fluidics station LCD window displays **Remove Tube from Needle**, carefully remove tubing from each module needle by pushing the tubing down with one hand while holding the needle with the other.

IMPORTANT — *Do not pull the tube as this may damage the needle in the process.*

10. Load empty microcentrifuge tube onto each module. The fluidics station will empty the lines and run three cycles with three rinses each. In addition, the fluidics station will rinse the needle 20 times, twice using distilled water, then bring the temperature back to 25°C and drain the lines with air.
11. The LCD display will read **CLEANING DONE**.

Monthly Fluidics Station Decontamination Protocol

To maintain your Fluidics Station in the best possible working condition, we recommend that the following decontamination protocol be performed on your fluidics station **at least once a month**, in addition to the weekly cleaning described above. The protocol requires approximately 2 hours to run.

This protocol ensures that all of the tubing associated with the station is kept thoroughly clean. Keeping this tubing as clean as possible ensures that array images will be optimized and high-quality results will be obtained.

1. Prepare 2 liters of 0.525% sodium hypochlorite solution using distilled water. Mix well.
2. Place all three wash lines of the fluidics station in 1 liter of 0.525% sodium hypochlorite solution.
3. Run the Prime protocol (page 2.4.8) on all four modules with wash lines in 0.525% sodium hypochlorite solution (instead of wash buffers A and B).
4. Run the Shutdown protocol (page 2.4.16) on all four modules with wash lines in 0.525% sodium hypochlorite solution (instead of distilled water).
5. Follow Bleach Protocol (as described on page 4.1.4) with the following change in Step 3: place the three wash lines of the fluidics station in 1 liter of 0.525% sodium hypochlorite solution instead of distilled water.
6. Change intake tubing and peristaltic tubing, if required (as described in the *Fluidics Station 400 User's Guide*).
7. Run the **Bleach** protocol with three wash lines of the fluidics station in distilled water.
8. Run the **Prime** protocol with wash lines in distilled water (instead of wash buffers A and B).
9. Run the **Shutdown** protocol with wash lines in distilled water.
10. Run the **Prime** protocol with wash lines in distilled water (instead of wash buffers A and B).
11. Run the **Shutdown** protocol with distilled water.

✔ Note

At the end of each step, the fluidics station will indicate a 'ready' status. The fluidics station should not be used until this entire procedure (steps 1-11) is complete.