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1311 Orleans Drive, Sunnyvale, California, United States of America 94089.
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IonWorks Barracuda® Replaceable Ground Electrodes (REGE) Kit Conditioning Guide

This kit is for use with the replaceable ground electrodes (REGEs) plenum for your IonWorks Barracuda®Automated Patch Clamp System.

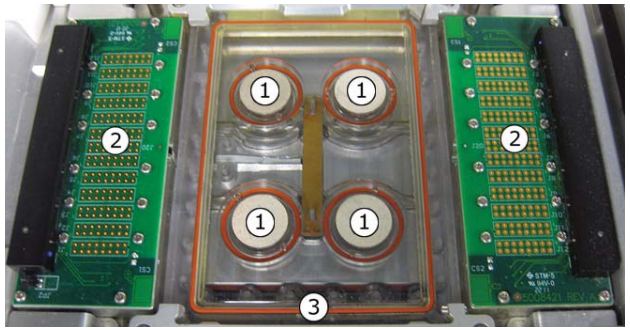

Figure 1-1: The PatchPlate Station Replaceable Ground Electrodes Plenum

Position	Component
1	Replaceable ground electrodes
2	Amplifier touch pads
3	Plenum O-ring (rubber gasket)

Each REGE set is serialized. On the bottom of each housing within a set is a serial number and a letter (Figure 1-2). Each set should have the same serial number along with the letter A, B, C, or D so you can track each REGE location within the plenum slots, as needed. Molecular Devices recommends using the REGEs as complete sets. Avoid mixing multiple sets.

Figure 1-2: REGE Set Serialization

For instrument maintenance purposes, Molecular Devices recommends removing and conditioning each installed REGE set nightly.

For proper usage and maintenance, this guide provides the process for Conditioning a REGE Set.

Refer to your *IonWorks Barracuda Automated Patch Clamp System User Guide* for additional information and procedures.

Conditioning a REGE Set

The purpose of the conditioning process is to equilibrate the REGE set to the internal buffer that you will use in your next assay.

Before installation and use, the REGE set must be conditioned in the correct internal buffer. For ideal equipment maintenance purposes, Molecular Devices recommends also conditioning each REGE set at the end of the usage day using fresh internal buffer overnight.

After conditioning, the REGEs go back in to the IonWorks Barracuda PatchPlate station REGE plenum sockets to continue running assays, or should be stored dry in the original packaging.

REGEs stay conditioned as long as they are unused, untouched by bare hands, and properly equilibrated.

CAUTION! Never touch the top surface of the ground electrodes with your bare hands, because it results in a build-up of oils on the electrodes that impairs the functionality.

To condition a REGE set:

1. Fill the included deep buffer boat with the same kind of internal buffer that you will use for your next assay.
2. Place the four REGEs upsidedown in the buffer boat with the electrode heads on the bottom of the buffer boat.
3. Add enough additional internal buffer fluid, as needed, until the electrodes are completely submerged (Figure 1-3).

Figure 1-3: REGEs Soaking in Condition Solution

4. Remove air bubbles trapped against the electrodes by gently tapping the submerged housings.

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5. Soak overnight. Molecular Devices recommends between 13 to 15 hours.
6. After soaking the electrodes overnight, wearing gloves, remove the REGEs from the buffer boat, and rinse each briefly over a sink with distilled water.
7. Dry the REGE housing, especially the underside (Figure 1-4).

CAUTION! If not removed from the underside of the REGE housing, the salt in the internal buffer accumulates in the REGE plenum socket, which can cause an open circuit when the salt dries.

Figure 1-4: REGE Housing Underside Drying

8. Install the REGEs in the IonWorks Barracuda instrument plenum to continue running assays. Refer to your *IonWorks Barracuda Automated Patch Clamp System User Guide* for installation details.
9. After conditioning, unused REGEs should be stored dry in the original packaging with the lid closed.

CAUTION! Once your REGEs are dry, if you are going to immediately use them to run assays, do not rinse the electrode heads with distilled water, because your assays can experience voltage drift while the chloride concentration in the electrodes equilibrates to the chloride in the internal buffer.

When completely dry, the REGEs rapidly absorb approximately 200 µL of the liquid that first wets them, and it takes about 90 minutes for the REGEs to equilibrate to a different buffer.