

About Microelectrode Arrays (MEA)

Quick Guide for Using, Storing, and Cleaning of MEAs

Best before date:



The period of warranty for MEAs is six month!

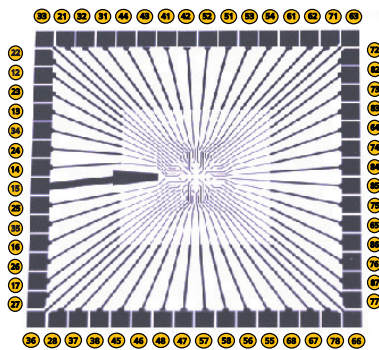
This guarantee expires if the MEA is modified (for example with a custom culture chamber), operated incorrectly, or intentionally or negligently damaged.

For detailed information about MEAs, please read the MEA Manual, the Cleaning Quick Guide, and the respective MEA Layout Datasheet.

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MEA Standard Layout:

8 x 8 grid. The specified amplifier pin numbers are the MEA-System channel numbers that are used in the data acquisition program. Pin number 15 is connected to the big internal reference of the MEA.



Note: Please soak dry MEAs with PBS on a heating plate at ± 30 °C for at least five hours before using. This pretreatment increases the hydrophilicity of the electrodes. Otherwise the impedances are too high.

Storage: To maintain a hydrophilic surface after hydrophilization, it is recommended to store the MEAs filled with distilled water until use. Dry MEAs will get hydrophobic again after some time. Store MEAs filled with sterile distilled water at 4 °C in the dark, for example in the fridge, to prevent microbiological contaminations and to maintain a hydrophilic surface. Change the water at least once a month.

Use: MEAs are not symmetrical! MEAs with one big internal reference electrode should be placed with reference electrode to the left side when looking directly to the opened amplifier. Otherwise, the MEA layout will not match with the pin layout of the channel map in the data acquisition software. For MEAs with more than one big internal reference, please read the respective MEA layout datasheet.

Important: Do not autoclave pMEAs, FlexMEAs or EcoMEA-Glass! Do not use an ultrasonic bath for cleaning.

Cleaning with Terg-A-Zyme detergent:

Prepare a 1 % solution of Terg-A-Zyme in distilled water.

1. Place the MEA in 1 % Terg-A-Zyme solution overnight at room temperature and apply gentle shaking, if possible.
2. After Terg-A-Zyme treatment, rinse the MEA thoroughly with distilled water.
3. Dry the MEA and apply hydrophilic surface treatment, if necessary, for example via plasma cleaner.
4. If the MEA is going to be used for cell or tissue culture, autoclave the MEA at 121 °C for 30 min.
5. Do not fix cells or tissues on a MEA. Detergent treatment will not remove fixed tissues.

Impedance: The impedance of an electrode depends on the material, the diameter and the hydrophilic properties of the electrode. Hydrophobic electrodes show unrealistic high impedances.