

An Alternative Way to Obtain Good Cell Distribution on ECIS Arrays

Careful inoculation of arrays is the key to obtaining good ECIS data. This is especially important when measuring cells on a single electrode (8W1E arrays) or performing cell proliferation experiments, where wells are being inoculated with sparse cell populations. In that newsletter we suggested pre-warming the suspension to incubator temperatures to minimize thermal convection that can move cells to the well periphery, leaving fewer cells in the central region.

We recently started using an alternative approach where pre-warming the suspension is not necessary and the results have been equally satisfactory.

Simply inoculate the ECIS arrays outside of the incubator with warm (or room temperature) medium, and then wait 15 to 30 minutes before placing the array in the incubator space. Since there is no heating from below, there is no convection, and the cells settle uniformly over the entire substrate and begin to attach to the surface.

CO₂ dependent medium will experience some pH increase out of the incubator, and consideration should be given to avoid this. We have not found a pH drift to be a problem, however, as once in the incubator we observe normal cell attachment and spreading impedance data.