PART ONE:
Ion Channel Analysis - Today's contemporary systems for safety and efficacy screening

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Nanion provides „smart tools for electrophysiologists“. If you are studying ion channels and electrogenic transporters, our chip- and plate-based devices are well suited to advance your research and screening projects. You will find instrumentation for patch clamp, bilayer recordings, SSM-based electrophysiology, impedance and extracellular field recording within our portfolio.

In our first workshop, we focus on two plate-based devices for higher throughput assays:

The SyncroPatch 384/768PE, an automated patch clamp platform, records from up to 768 cells simultaneously. Application areas range from HTS cardiac safety assessment and efficacy screening to the analysis of ion channel mutations. The SyncroPatch 384/768PE supports voltage- and current clamp recordings, temperature control, and minimal cell usage. In addition to the use of stably transfected cell lines, more challenging cell assays including stem cell-derived cells, transiently transfected cells or primary cells can be used successfully.

The CardioExcyte 96, a device for label-free analysis of 2D/3D cells/clusters in a 96 well plate, utilizes two different analysis technologies: Extracellular field potential and impedance. It is a versatile tool for cardiac safety screening given its high resolution which allows the recording of beating iPSC-derived cardiomyocyte networks. The optical lid (CardioExcyte 96 SOL) uses LEDs for pacing cardiomyocytes with light (optogenetics) to study beat rate-dependencies of compounds. Furthermore, long-term impedance measurements of cells over several days makes it an ideal tool for routine toxicity screening (e.g. hepatotox, cardiotox) and cell monitoring.