

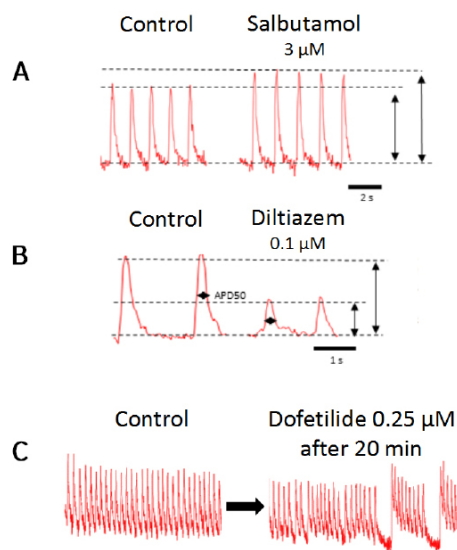
Live Cell Imaging

Besides classical electrophysiological approaches, we offer live cell imaging based techniques in order to monitor cell-cell interactions and analyze compound induced effects on intracellular ion homeostasis.

For instance, monitoring the dynamic changes of intracellular Ca^{2+} concentration ($[\text{Ca}^{2+}]_i$) enables the understanding of cardiac function, including inotropic effects and the occurrence of proarrhythmic events at physiological temperature (37°C).

Hamamatsu FDSS/ μCell

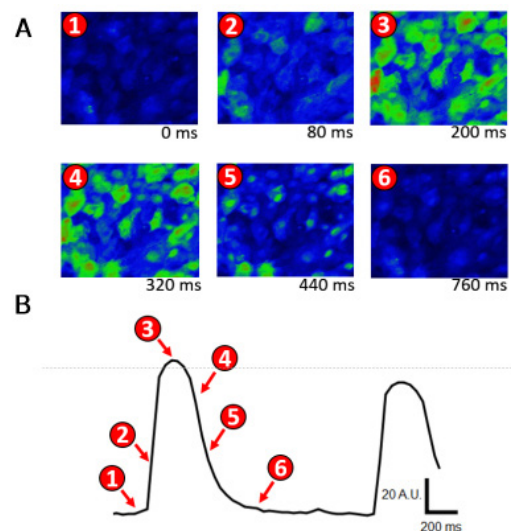
- High throughput screening with parallel recordings in 96- or 384-well format at a sampling frequency of up to 120 Hz.



Spontaneously beating cardiomyocytes. (A) Positive inotropic effect, the amplitude of the $[\text{Ca}^{2+}]_i$ rise is enhanced by beta2-sympathomimetic compound exposure. (B) Negative inotropic effect, the amplitude and duration of the Ca^{2+} transient is reduced by Ca^{2+} channel inhibitor exposure. (C) Detection of proarrhythmic behavior triggered by a potent hERG channel inhibitor.

Zeiss Cell Explorer

- Rapid confocal imaging offers subcellular resolution with sampling frequencies up to 80 Hz.



Spontaneously beating cardiomyocytes. (A) Pseudocolor coded images, where cold and warm colors indicate low and high $[\text{Ca}^{2+}]_i$ levels, respectively. (B) Trace showing the fluorescence intensity over time. Numbers indicate time points of the images.