

# 培养新生大鼠心肌细胞的电信号传导：多电极记录研究

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利用多电极阵列同步记录技术对培养的新生大鼠单层心肌细胞的电活动进行胞外记录，我们考察了心肌细胞在自发搏动和电刺激情况下信号在细胞间的传导模式。通过对记录信号的处理和分析，能获得诸如起搏细胞的数量和位置、动作电位的传导速度和途径，以及不同起搏细胞间的相互影响等信息。研究还发现，心肌细胞阈下刺激会影响细胞的搏动和信号传导。

## Signal Propagation in Cultured Neonatal Rat Cardiac Myocytes: Multi-electrode Recording Study

The signal propagation in cultured neonatal rat cardiac myocytes has been investigated to determine signal propagation patterns when the cells were spontaneously beating or being stimulated. Extracellular recordings of the population action potentials of cardiac myocytes clusters were made using multi-electrode array (MEA). MEA simultaneously recorded electrical activities from various cells and provided information about the number of pacemaker cells, action potential propagation velocity and route, and interactions between different pacemakers. The experiments revealed that the activation of pacemakers and the signal propagation were both affected by the under-threshold stimuli.

关键词