

# C57BL/6小鼠听皮层脑片的长时程增强特性

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采用脑片细胞外记录群体细胞兴奋性突触后电位方法, 在成年C57BL/6小鼠听皮层上, 研究长时程增强(long-term potentiation, LTP)特征。用100 Hz高频电脉冲刺激听皮层白质, 可在听皮层灰质II/III层记录到明显的LTP。根据条件刺激后LTP的变化特征, 将其分为缓慢上升(A类)和短暂快速上升(B类)两种类型。使用模拟的 $\theta$ 节律刺激参数, 可更有效地诱导听皮层LTP, 其群体细胞兴奋性突触后电位斜率增加更为明显( $P < 0.01$ ), 诱导成功率也更高。

## THE PROPERTIES OF LONG-TERM POTENTIATION IN THE AUDITORY CORTEX OF C57BL/6 MICE

Long-term potentiation of field excitatory post-synaptic potentials (fEPSP) in the auditory cortex of C57BL/6 mice was studied by extracellular recording technique. Tetanic stimulation of white matter produced LTP in layers II/III, which showed two kinds of properties. A type synaptic potential was gradually increased while B type potential was quickly increased following a lower stable level. Theta burst stimulation (TBS), which mimic natural spike burst could elicit LTP more effectively than high frequency stimulation (HFS) could. Both the slope and the incidence of TBS-induced LTP were larger than those of HFS-induced LTP ( $P < 0.01$ ).

关键词