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Poster Presentation P46

ROLE OF THE MEDIAL SEPTAL AREA IN REGULATING PREFRONTAL THETA RHYTHM IN RATS

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Theta rhythms are electroencephalogram (EEG) waveforms between 4-12 Hz and are correlated with arousal, orientation, exploration, attention, learning and memory, motivational drives and emotions and movements. Today, it is well established that cells of the medial septal area (MSA) pace the theta rhythm in the hippocampus (HPC) and that lesioning the MSA abolishes theta rhythm in the HPC. More recent studies have examined theta activity outside the hippocampus in areas such as the prefrontal cortex (PFC). However, the underlying anatomy and pharmacology of PFC theta is not as well established. This study will examine the role of the MSA in regulating prefrontal theta rhythm in rats to determine if the mechanisms controlling PFC theta are similar in nature to HPC theta mechanisms.