

## **P1.02.**

### **Analysis of slow cortical rhythm recorded from different cortical sites**

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Slow cortical rhythm (SCR) is a rhythmic alteration of active (hypopolarized) and silent (hyperpolarized) epochs in cortical neurons. In urethane anesthesia, SCR is characterized by the alternation of almost isoelectrical EEG periods and low-frequency, high-amplitude large shifts with superimposed high-frequency activity (UP shifts). In the present experiments, SCR was recorded by two 16-pole vertical electrode arrays from different cortical areas simultaneously in urethane-anesthetized rats. Current source density (CSD) analysis showed very similar sink-source configuration patterns when identical areas (frontal, parietal and occipital) were recorded bilaterally. In the infragranular layers of the frontal as well as the parietal cortex, activation associated by the UP shifts was more pronounced compared to the occipital cortex where this activation was weaker but lasted longer. Amplitude of the UP shifts in the occipital cortex was smaller compared to frontal as well as parietal ones. These results suggest that although SCR is highly synchronous over the cortical mantle, local differences in the pattern of spontaneous activation may exist according to the actual state and functional connectivity of the examined cortical area.

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