

Lab Visit Report

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Host University: Rosalind Franklind University of Medicine and Science (RFUMS), North Chicago, Illinois, USA.

Host Laboratory: Prof. Kuei-Yuan Tseng.

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Dates of Internship: June 1st of 2015 to the November 2nd of 2015.

Laboratory Visit

Dr. Tseng and the members of his laboratory received me very well. They helped me a lot with my installation and adjustment to the laboratory and USA. My first work in the laboratory, was to conduct a thorough search of literature and amounts and quality of antagonist would use in the project. Also, what kind of preparation would use to examine the effect of corticotrophin releasing factor type 2 receptor (CRF₂R). At the time I collect project information to perform. I began to become familiar with tasks that were performed in the laboratory. Also, I learned to perform some techniques that I should do later in the internship. For example, I learned the analysis of the electrodes position in the brains of animals used and staining of the sections used for the analysis of the electrodes position. Besides the daily tasks, I helped with the realization of some in vivo recording in anesthetized animals, performed in the laboratory. Helping in the laboratory recordings, allowed me to learn the methodology and subsequent analysis of the results obtained in the in vivo recordings in anesthetized animals.

The following objectives were chosen to analyze the effect of CRF₂R in synaptic connection between the basolateral amygdala (BLA) and the medial prefrontal cortex (PFC):

1. To examine the effect of an antagonist for CRF₂R in local field potentials (LFP) at the BLA-PFC synapse in anesthetized animals.
2. Analyze the effect of an antagonist for CRF₂R in plasticity in the BLA- PFC synapses in anesthetized animals.
3. To examine the effect of an antagonist for CRF₁R in LFP at the BLA-PFC synapse in anesthetized animals.
4. Analyze the effect of an antagonist for CRF₁R in plasticity in the BLA- PFC synapses in anesthetized animals.

Our Results

We managed to perform local field potentials in the PFC of evoked potentials from the BLA. To perform the electrophysiological recordings, a stimulation electrode were place in the BLA and the recording electrode were introduced in the PFC, both electrode must be in the same hemisphere of anesthetized animal. As shown in Figure 1, we were able to reach with the electrodes to the studied regions. We were able to obtain electrophysiological recordings and perform plasticity protocols in the synapses of the BLA-PFC. Subsequently, the infusing of an antagonist for CRF receptors in the PFC, did not show significant changes in the local field potential in the PFC. Then, we decided to conduct plasticity protocols in the BLA-PFC synapses in the presence of antagonists for CRF receptors. The perfused of CRF antagonists in the PFC, we note that the BLA-PFC plasticity was modulated by antagonists to CRF receptors.

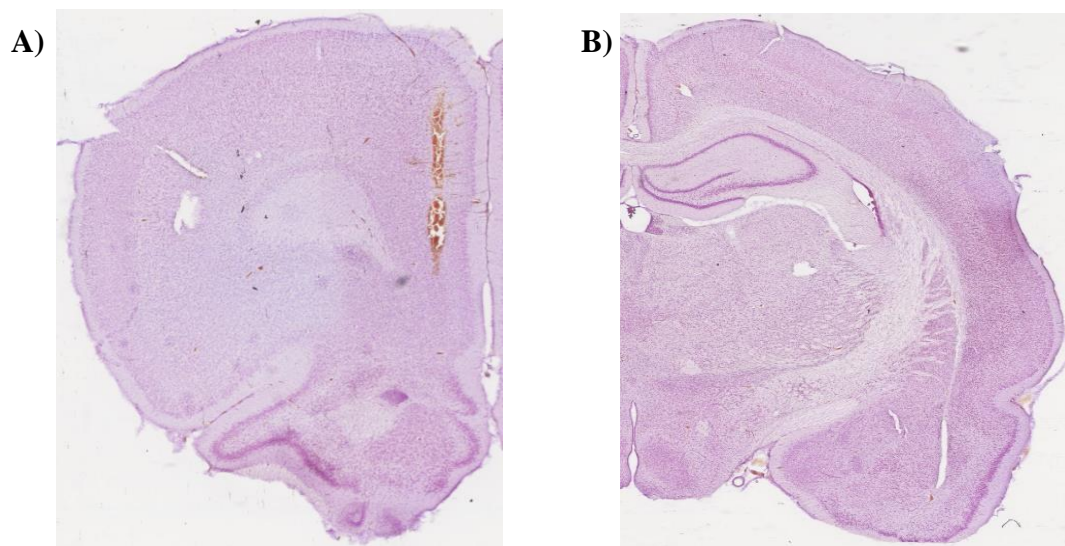


Figure 1. Example of the electrode placement in the PFC (A) and BLA (B) for the electrophysiological registers.

Relevance for my Research

The work done in the RFUMS under the tutelage of Dr. Tseng was very helpful for my research and for my training as a researcher in science. Thanks to the stay in the laboratory of Dr. Tseng, helped me a lot to complete my PhD research and the internship will help me a lot in various topics of my career as a scientist.

Acknowledgments

I want to thank to CAEN and ISN for choosing me and provide me the funds to help my internship in USA. I am grateful to Dr. Kuei-Yuan Tseng for their unconditional support and mentoring throughout my internship in his laboratory, without his help could not done any projects those months. I would also like to thank the members of Tseng laboratory (Adriana, Eden, Ruvini and

Dan) for their cooperation and for making my internship more pleasant in the laboratory of RFUMS and in USA.

