Seminar/Talk

Orchestrating opioid-associated memories in thalamic circuits

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Host: Simon Hippenmeyer

A major challenge for successfully treating addiction is to prevent relapse, which is largely due to the powerful memories associating drug-evoked experiences with proximal environmental cues. Immediate effects of drugs of abuse are followed by the emergence of a negative withdrawal state as the drug is metabolized. Both positive reinforcement of drug reward and negative reinforcement of avoiding drug withdrawal promote the formation and maintenance of drug-associated memories. The extent to which each of these opponent processes contributes to drug seeking, however, remains elusive. In this talk, I will present evidence for supporting the essential role of the paraventricular nucleus of the thalamus (PVT) to the nucleus accumbens (NAc) pathway in mediating opioid withdrawal symptoms. The identification of neuronal pathway for withdrawal provides unique opportunity to untangle the respective contribution of reward vs. withdrawal process to drug seeking. I will discuss experiments using optogenetic pathway silencing to examine contribution of the PVT?NAc pathway to the acquisition and maintenance of opioid-associated memories, and using this pathway as an entry point to explore the brain wide network for storing opioid-associated memories.

Monday, February 26, 2018 01:30pm - 02:45pm
Seminar Room, Lab Building East

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