Laboratory title : CNRS UMR 5287 - Jean-René Cazalets

Supervisor

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Thesis title :
Neurobiology of vulnerability associated with opiate use disorders

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Abstract
The extremely aversive drug withdrawal syndrome, a pathologically increased motivation for drugs, social deficits and a long-lasting vulnerability to stressful events might dramatically contribute to the development and/or maintenance of opiate addiction. The corticotropin-releasing factor system (CRF) coordinates behavioral, endocrine and autonomic nervous system responses to stressful events. Our prior studies demonstrate a crucial role for the CRF system in somatic signs, negative affective-like states and stress-coping associated with the initial phases of opiate withdrawal (Contarino & Papaleo, Proc Natl Acad Sci USA, 2005; Papaleo et al. Neuron, 2007; Papaleo et al. Neuropsychopharmacology, 2008; Ingallinesi et al. Mol Psychiatry, 2012). However, CRF role in the long-lasting vulnerability to stressful events following drug withdrawal remains largely unknown.

The aim of the present research project is to investigate the role for the CRF system in the long-lasting vulnerability induced by intake of and withdrawal from opiate drugs. For this purpose, we will use experimental paradigms assessing the reemergence of drug-seeking behavior, negative emotions (dysphoria-like and anxiety-like) and social deficits in the field of sociability and social novelty preference (including social memory), which are triggered by stressful events longtime after the last drug administration. These studies might also allow the understanding of the link between the latter drug-induced behavioral alterations. Furthermore, genetic (optogenetic and gene deletion), molecular biology and pharmacology studies will be performed to identify the brain mechanisms underlying the long-lasting vulnerability induced by opiate drugs and the possibility to use the CRF system as a therapeutic target.

Qualification required

The student should have either a Master degree in Neurosciences or close disciplines or a M.D. or Psychiatry degree. A relatively good knowledge in neuropharmacology, genetics and neurobiology of psychiatric diseases would be appreciated.