

SAN2020 E-BOOK

Welcome

*In the context of the COVID19 pandemic, the XXXV Annual Meeting of the Argentinian Society for Neuroscience Research took place under a **virtual** format, opening an opportunity to widely reach the neuroscience community in Argentina and abroad.*

*Conserving the classical structure the meeting included **plenary lectures, symposia, young investigator talks and poster presentations**, as well as **round tables** discussing career advancement, work environment topics and a special event dedicated to LATBrain (Latin American Brain Initiative).*

*The meeting was supported, as every year, on the principles of **scientific excellence and nationwide representation, with a special emphasis in gender equality.***

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CELLULAR AND MOLECULAR NEUROBIOLOGY

NF- κ B as key contributor of the comorbidity between chronic restraint stress and cocaine self-administration

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Stress is a well-known risk factor in the development of psychostimulant addiction and relapse vulnerability. We showed that a deregulation of glutamate homeostasis, including a decrease of GLT-1 glutamate transporter and postsynaptic changes in Nucleus Accumbens core (NA), underlie cross-sensitization to cocaine following stress. NF κ B, an ubiquitous transcription factor, induce the expression of gene targets closely involved in glia maintenance of GLU homeostasis. We propose a central role of Nf κ B signaling in stress-induced deregulation of GLU homeostasis and facilitation of cocaine self-administration in rats. Firstly we showed that PDTC, an inhibitor of NF κ B nuclear translocation, prevents the expression of sensitization to cocaine following chronic stress (2h-restraint x 7 days). Secondly, we designed lentiviral vectors (dn IKK) targeted NF- κ B. The lentiviral vectors (bisitronics), express GFP promoter and the dominant negative of the IKK, abrogates the activation of NF κ B. The results obtained in culture showed the expression of lentiviral vectors in the host cell. Then, the lentiviral vectors will be administered in NA of rats to be tested in a cross sensitization model between cocaine and chronic stress as well as changes on GLU homeostasis in the NA. Thus, we put forward the advantageous use of genetic manipulation techniques to study in deep the NF κ B-dependent neurobiological mechanisms of comorbidity between exposure to stress and cocaine abuse