Département de psychiatrie
Centre de neurosciences psychiatriques
Site de Cery
CH-1008 Prilly - Lausanne

Centre de Neurosciences Psychiatriques

CNP SEMINAR

ANNOUNCEMENT

Friday, December 6, 2013, 1:00 p.m.

"Oxytocin and vasopressin receptors in the brain: new therapeutic targets for neuropsychiatric disorders"

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BIO-SCKETCH BICE CHINI is senior researcher and group leader at the Institute of Neuroscience of the Italian National Research Council (CNR). Her research interests include oxytocin and vasopressin receptors as prototypes of G-protein coupled receptors. She has investigated the conformational states underlying receptor activation and inactivation and the molecular basis of receptor signaling and trafficking with the final aim to develop new pharmacological analogues of potential use in neuropsychiatric disorders.

ABSTRACT Despite the well known effects of oxytocin in regulating neuroendocrine, social and cognitive functions, and the preliminary clinical trials showing a beneficial effect of oxytocin in autistic patients, the molecular mechanisms of oxytocin-induced signalling in nervous and glial cells is still largely unknown. I will present data showing how oxytocin can trigger different signalling pathways in neuronal cells and how this impacts on the design of new drugs targeting this neuropeptide system. I will also discuss animal models in which genetically induced deficits in the oxytocin/vasopressin systems lead to impaired social interactions, and how such animal models can be instrumental to understand the neurochemical basis of autistic-like symptoms.

Selected publications:

1. Huang H, Michetti C, Busnelli M, Manago' F, Sannino S, Scheggia D, Giancardo L, Sona D, Murino V, Chini B, Scattoni ML, Papaleo F Chronic and Acute Intranasal Oxytocin Produce Divergent Social Effects in Mice *Neuropsycopharmacology* in press
2. Chini B, Leonziono M, Braida D, Sala M. Learning about oxytocin: pharmacological and behavioural issues *Biol Psychiatry* 2013 Oct 8 [Epub ahead of print]
3. Sala M, Braida D, Donzelli A, Martucci R, Busnelli M, Bulgheroni E, Rubino T, Parolaro D, Nishimori K, Chini B. Mice Heterozygous for the Oxytocin Receptor Gene (Oxtr(+/-)) Show Impaired Social Behaviour but not Increased Aggression or Cognitive Inflexibility: Evidence of a Selective Haploinsufficiency Gene Effect. *J Neuroendocrinol.* 2013 Feb;25(2):107-18.
4. Busnelli M, Sauliere A, Manning M, Bouvier M, Gales C, Chini B. Functional selective oxytocin-derived agonists discriminate between individual G protein family subtypes. 2012 *J Biol Chem 2012,* 287, 3617-3629
5. M. Sala, D. Braida, D. Lentini, M. Busnelli, V. Capurro, A. Finardi, A. Donzelli, L. Pattini, T. Rubino, D. Parolaro, K. Nishimori, M. Parenti and B. Chini, Pharmacological rescue of impaired cognitive flexibility, social deficits and increased aggression in the oxytocin receptor null mice, a neurobehavioral model of autism spectrum disorders. *Biol Psychiatry* 2011; 69(9):875-82.

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