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Abstracts of the 2018 Meeting of Argentine Society for Research in Neurosciences

XXXIII Congress of the Argentine Society for Research in Neuroscience
October 24th – 26th, 2018
Pabellón Argentina, Ciudad Universitaria, UNC
Web site: http://www.saneurociencias.org.ar/

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The Argentine Society for Research in Neurosciences (SAN) held its XXXIII Annual meeting in the Argentine Pavilion (Pabellón Argentina) at the National University of Córdoba, city of Córdoba, Argentina, on October 24 and 26 of this year. The 2018 meeting took place especially under the framework of the centenary of the Córdoba University Reform of 1918.

SAN 2018 meeting had a great call with about 400 attendees among researchers, scholars, PhD students, and guests from different centers and universities of Argentina and abroad from other 11 countries of Latin America (Brazil, Uruguay, Chile, México, and Colombia), North America (USA and Canada), and Europe (Denmark, Switzerland, Ireland, and Spain). The scientific program included a total of 4 Plenary Lectures, 10 Symposia, 10 Youth Investigator Lectures, 14 Oral Communications, and 287 Posters, covering a great variety of areas in the field of neurosciences.

It is noteworthy that two of the Plenary Lectures were placed in honors of the pioneers of neurochemistry and neurobiology in Argentina, Drs. Ranwel Caputto and Eduardo De Robertis. This year the Ranwel Caputto Lecture was delivered by Prof. Charles Gilbert of Rockefeller University (USA) and De Robertis Lecture by Prof. Claudio Cuello of McGill University (Montreal, Canada). The opening lecture was delivered by Prof. Annie Andrieux (Grenoble, France), and the forth plenary lecture by Prof. Steven Fliesler of Buffalo University (USA).

As pre-meeting activities, on October 22 and 23, two specific courses were held: (a) A workshop tribute to the memory of Prof. Ricardo Miledi, pioneer in the study of synaptic transmission and ion channels, held at the Mercedes and Martin Ferreyra Institute (INIMEC CONICET, Córdoba), in which 77 undergrads and PhD students participated, as well as (b) a course entitled "Neurobiology of drug addiction," held at the School of Chemical Sciences (UNC, CONICET), which had 65 attendees and invited speakers from all around the world. In addition, on October 23, we organized a day of communication of neurosciences, open to the public, and held at the conference room of Pabellón Argentina of the National University of Córdoba.

Remarkably, all the activities organized, including the Symposia and the Young Investigator Lectures, covered a number of diverse disciplines in the field of neurosciences with the participation of outstanding invited speakers from Argentina and other countries.

Moreover, a very friendly atmosphere for discussion and data presentation was generated during the poster and oral communication sessions with the participation of 176 PhD students, 61 undergrads, and 27 postdocs.

Lecture Abstracts

Wednesday, 24: 11:00–12:00 Opening Lecture/Room A

Tubulin Tyrosination-Detyrosination Cycle: Key Role in Neuronal Functions

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Microtubules are cytoskeletal polymers of α/β tubulin heterodimers, centrally involved in cell division, motility, and morphogenesis. In the de/tyrosination cycle of tubulin, the C-terminal tyrosine of α-tubulin is removed by a carboxy peptidase (TCP),

significant morphological changes in their nuclei. We evaluated whether neuro-glial crosstalk might be responsible of these changes. Noteworthy, when we co-cultured rd MGCs with wt neurons, Nestin expression was restored in rd MGCs. Conversely, in co-cultures of wt MGCs with rd neurons, Nestin expression in MGCs decreased. These results suggest that the mutations in rd photoreceptors lead to a disruption in neuro-glial crosstalk, affecting the proliferative and regenerative capacities of rd MGCs.

Cellular and Molecular Neurobiology

P125. Dynamics of GABABR and Associated Proteins in the Postnatal Rat Cerebellum

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Before glutamatergic synapses are formed, GABA-mediated signaling is considered to drive cell differentiation in the developing central nervous system (CNS). GABA, a classical inhibitory neurotransmitter, can also depolarize immature cells. Although this shift is mediated by the ionotropic GABA A receptor (GABAAR), recent evidence suggests that the electrical properties of GABAARs can be modulated by the metabotropic GABA B receptor (GABABR). GABABRs are macromolecular complexes, formed by a G protein-coupled receptor and a large number of constituents that interact together and ultimately influence cell identity and behavior. The composition of these complexes exhibits wide spatiotemporal variations; however, the implications of such dynamism during development of the CNS are far from being understood. We have determined total protein expression of some constituents of GABABRs (GABABR1a; GABABR1b, GABABR2; KCTD12) in the developing cerebellum of postnatal rats at 5, 15, and 90 days after birth, by performing Western Blots. Our findings suggest that the expression levels of the core and auxiliary subunits of GABABRs vary ontogenetically. This dynamism was also observed at the mRNA levels by RT-PCR. In addition, multiple immunolabeling followed by confocal microscopy of cerebellar sections showed Purkinje cells as the most dynamic cell type in terms of subcellular localization of the different molecules studied here. Our data support a cell lineage-dependent GABABR regulation.

This study was supported by CONICET, ANPCYT (PICT2017-0499), and NIH (2 R01 GM083913-41A1).

Cellular and Molecular Neurobiology

P126. Neuron-Specific Expression of Drd2 Is Directed by Multiple Transcriptional Enhancers in the Mammalian Brain

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Abstract not available

Cellular and Molecular Neurobiology

P127. Inhibition of Colony-Stimulating Factor 1 Receptor Through BLZ945: Impact on Remyelination, Neurodegeneration and Behavior

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Cuprizone (CPZ)-induced demyelination is frequently used to study the de/remyelination processes as a multiple sclerosis (MS) model. Chronic CPZ induces oligodendrocyte loss, neuronal death, astrocytosis and microgliosis. Microglia (MG) participate in demyelination and neurodegeneration processes and are physiologically dependent on colony-stimulating factor 1 receptor (CSF-1R) signaling. The aim of this study is to evaluate the effects of BLZ945—a CSF-1R inhibitor which significantly reduces the number of MG—on remyelination and behavior in mice submitted to a chronic CPZ model. Mice were fed either control or CPZ (0.2% p/p) chow for 12 weeks, administered BLZ945 (200 mg/kg/day, oral gavage) or vehicle during 10 weeks (C, BLZ945, CPZ, and CPZ+BLZ945, respectively), and evaluated in the 12th week of CPZ treatment. Although other authors reported CPZ-induced changes in locomotion and