XXXIII CONGRESO ANUAL SAN 2018 CORDOBA – ARGENTINA 24 AL 26 DE OCTUBRE

PRE-CONGRESS COURSE "NEUROBIOLOGY OF DRUG ADDICTION"

SAN IBRO LARC Course and ISN Small Conference (ISN-CC) Associated to the XXXIII SAN 2018 Meeting

October 22nd -23rd, 2018

Ciudad Universitaria, Córdoba, Argentina

ORGANIZER:

Dr. Liliana M. Cancela. *IFEC-CONICET, Full Professor, Department of Pharmacology, School of Chemical Sciences, Universidad Nacional de Córdoba.*

COORDINATOR:

Dr. Flavia Bollati. IFEC-CONICET, Assistant Professor, Department of Pharmacology, School of Chemical Sciences, Universidad Nacional de Córdoba.

COLABORATORS:

Dr. Verónica Álvarez (USA)
Dr. María Estela Andrés (Chile)
Dr. Bruno Averbeck (USA)
Dr. Rudy Bernabeu (Argentina)
Dr. Martine Cador (Francia)
Dr. Peter W. Kalivas (USA)
Dr. Silvia Cruz (México)
Dr. Juan Carlos Molina (Argentina)
Dr. Gabriela Paglini (Argentina)
Dr. Mariela Pérez (Argentina)
Dr. Marcelo Rubinstein (Argentina)
Dr. Mirian Virgolini (Argentina)

LOCATIONS:

-Salón Auditorio, Edificio Integrador, Facultad de Ciencias Químicas, Universidad Nacional de Córdoba.
-Salón de Actos Pabellón Argentina, Ciudad Universitaria, Córdoba, Argentina

WORKSHOP *Homage to Ricardo Miledi*
"Workshop: Past, Present and Beyond of Synaptic Transmission"

Previous and satellite activity of the XXXIII Annual Congress of the Argentine Society of Neuroscience Research – SAN

October 22th – 23th, 2018 – Instituto Martín y Mercedes Ferreyra, Córdoba

LOCATION:
Instituto de Investigaciones Médicas
Mercedes y Martín Ferreyra (INIMEC)
Ciudad de Córdoba, República Argentina

ORGANIZING COMMITTEE:
Dr. Joaquín Piriz
Dr. Juan D. Goutman
Dr. Daniel J. Calvo
Dr. Osvaldo Uchitel

SPEAKERS:
Piotr Bregestovski (France)
Ataúlfo Martínez Torres (México)
Carlos Matute (Spain)
Ian Parker (USA)
Angela Vincent (UK)
Cecilia Bouzat (Argentina)
Daniel J. Calvo (Argentina)
Juan D. Goutman (Argentina)
Antonia Marín-Burgin (Argentina)
Osvaldo Uchitel (Argentina)

XXXII Congress of the Argentine Society for Research in Neuroscience

October 24th – 26th, 2018
Pabellón Argentina, Ciudad Universitaria, UNC

COMISIÓN DIRECTIVA SAN

Dr. Mario Guido, CIQUIBIC CONICET-Universidad Nacional de Córdoba
Presidente

Dr. Arturo Romano, Instituto de Fisiologia, Biología Molecular y Neurociencias, (IFIBYNE), FCEN UBA-CONICET
Presidente Saliente

Dra. Liliana Cancela, IFEC-CONICET, Universidad Nacional de Córdoba
Vice presidente

Dra. Julia Cambiasso, Instituto de Investigación Medica Mercedes y Martin Ferreyra, CONICET
Secretaria

Dra. María E. Pedreira, Instituto de Fisiologia, Biología Molecular y Neurociencias, (IFIBYNE), FCEN UBA-CONICET
Tesorera

Gastón Calfa, IFEC-CONICET. Departamento de Farmacología, Facultad de Ciencias Químicas, Universidad Nacional de Córdoba
Vocal

Estela Maris Muñoz, IHEM-CONICET, Universidad Nacional de Cuyo
Vocal

Javier Ramos, Instituto de Biología Celular y Neurociencia "Prof. E. De Robertis", CONICET-UBA
Vocal

COMISIÓN ORGANIZADORA SAN2018

Dr. Mario E. Guido,
CIQUIBIC CONICET-Universidad Nacional de Córdoba

Dra. Liliana Cancela,
IFEC-CONICET, Universidad Nacional de Córdoba

Dra. Estela Muñoz,
IHEM-CONICET, Universidad Nacional de Cuyo

Dr. Joaquín Piriz,
IFIBIO, CONICET-UBA, Universidad de Buenos Aires

Dr. Jeremías Corradi,
INIBIBB CONICET, Universidad Nacional del Sur, Bahía Blanca

Dra. Alicia Degano,
CIQUIBIC CONICET-Universidad Nacional de Córdoba

Dr. Pablo Lopez,
Instituto de Investigación Medica Mercedes y Martin Ferreyra, CONICET

P105.-α-synuclein overexpression triggers a lipid metabolic switch: lipid droplets as an early marker of neurodegeneration

Natalia Paola Alza[1], Melisa Ailén Conde[1], Gabriela Alejandra Salvador[1]

[1] INIBIBB, [2] Depto de Biología, Bioquímica y Farmacia-UNS

Presenting author: **Gabriela Alejandra Salvador**, *salvador@criba.edu.ar*

Pathological accumulation of α-synuclein (α-syn) is a hallmark of Parkinson 's disease. α-syn is highly expressed in the brain and has the intriguing characteristic of interacting with lipids. However, little is known about its biological role. We demonstrated that α-syn overexpression downregulates neurofilament expression (NF) through the modulation of phosphatidic acid signaling (Conde et al, 2018). Here, we studied lipid metabolism in neuroblastoma cells either stably transfected with pcDNA3 vector (as a transfection control) or pcDNA-WT-α-syn (WT α-syn). WT α-syn neurons displayed an increase in triacylglycerides (TAG) and cholesterol content consequently with lipid droplet (LD) accumulation. α-syn overexpression also triggered SREBP-2 nuclear translocation coincidently with this lipid metabolic switch. Enhancers of α-syn aggregation (iron, manganese and bortezomib) increased LD content. WT α-syn overexpression also induced Acyl-CoA synthetase activation which explained, at least in part, the increase in TAG, a rather unusual occurrence in healthy neurons. Pharmacological inhibition of TAG synthesis turned the neurons more vulnerable to the presence of WT α-syn. Additionally, NF recovery increased the expression of cleaved caspase 3. In conclusion, α-syn modulates neuronal lipid biology together with the loss of NF as part of a neuroprotective strategy.