SAN2021
EBOOK

EXECUTIVE BOARD

DR. LILIANA CANCELA, PRESIDENT
IFEC (UNC-CONICET) / DF (FCQ-UNC)

DR. MARTA ANTONELLI, VICE-PRESIDENT
IBCN-CONICET, FMED UBA

DR. MARIO GUIDO, PAST-PRESIDENT
CIQUIBIC (FCQ, UNC-CONICET)

DR. MARÍA ANA CONTÍN, SECRETARY
CIQUIBIC (FCQ, UNC-CONICET)

DR. JUAN E. FERRARIO, TREASURER
IB3 (UBA), CONICET / DFBMC (FCEN-UBA)

DR. MARCELA BROCCO, VOCAL
INSTITUTO DE INVESTIGACIONES BIOTECNOLÓGICAS (IIB-UNSAM)

DR. PATRICIA SETTON, VOCAL
IQUIFIB (UBA-CONICET) / FFYB UNIVERSIDAD DE BUENOS AIRES.

DR. NICOLÁS UNSAÍN, VOCAL
INIMEC (UNC-CONICET)

ORGANIZING COMMITTEE

JORGE MARIO ANDREAU
IBYME - FAC DE PSICOLOGIA, UNSAL - INVESTIGADOR

MARTA ANTONELLI
FAC DE MEDICINA - UBA VICEPRESIDENTA SAN

LILIANA CANCELA
IFEC, UNC. PRESIDENTA SAN - COORDINADORA

CAMILA COLL
IFIBIO. DOCTORANDA

MACARENA FERNANDEZ
IIPSI-CONICET-UN. POST-DOC

GRACIELA LUJAN MAZZONE
UNIVERSIDAD AUSTRAL. INVESTIGADORA

DIEGO RAYES
INSTITUTO DE INVESTIGACIONES BIOQUÍMICAS DE BAHÍA BLANCA (INIBIBB). INVESTIGADOR

PATRICIA SETTON
FFYB, UBA. VOCAL SAN

ALEJANDRO SODERO
BIOMED, UCA. INVESTIGADOR

AGOSTINA STAHL
IFIBIO. DOCTORANDA

CELLULAR AND MOLECULAR NEUROBIOLOGY

Nrf2 signaling and cytoskeleton as targets of α-synuclein overexpression: new insights into pesticide-induced neurotoxicity.

Melisa Ailen Conde[1,2], Melania Iara Funk[1,2], Ariana Bruzzone[1,2], Natalia Paola Alza[1,2], Romina Maria Uranga[1,2], Gabriela Alejandra Salvador[1,2]

1. Instituto de Investigaciones Bioquímicas de Bahía Blanca-Universidad Nacional del Sur (INIBIBB-UNS-CONICET), 2. Depto de Biologia, Bioquimica y Farmacia-UNS, 3. Depto de Quimica-UNS

Presenting Author:
***Melisa Ailen Conde** , mconde@inibibb-conicet.gob.ar*

Overexpression of α-synuclein (α-syn) and pesticide exposure are considered triggering factors of Parkinson's disease. Previously we demonstrated that α-syn overexpression downregulates neurofilament light chain expression and alters actin organization in neuroblastoma cells. In this work, we studied the effect of α-syn overexpression in neuronal cytoskeleton organization and how this could affect the antioxidant response during pesticide-induced neurotoxicity. For this purpose, neurons stably expressing wild type α-syn gene (WT α-syn) were exposed to the pesticide Maneb (Mb). Overexpression of α-syn triggered actin polymerization and Tau phosphorylation. Cytoskeleton changes were associated with differential activation and subcellular localization of focal adhesion (FA) and LIM kinases, respectively. FAK and Tau phosphorylation and the expression of Nrf2-dependent antioxidant enzymes were increased by Mb exposure in WT α-syn cells. The upregulation of antioxidant defenses was associated with a neuroprotective effect against pesticide neurotoxicity. However, Nrf2 nuclear localization induced by Mb exposure was not altered by α-syn overexpression. Our results demonstrate that Nrf2 trafficking seems to be affected by cytoskeleton disturbances induced by WT α-syn overexpression. Further studies are necessary to decipher the crosstalk between cytoskeleton reorganization induced by α-syn overexpression and Nrf2-dependent signaling during Mb neurotoxicity.