SAN2020
E-BOOK

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Program

	Oct 7	Oct 8	Oct 9
9:00 - 11:00	**Symposia Wed-S1 to Wed-S4:** Beckwith & de la Fuente, Falzone & Jerusalinsky, Kochen, Rayes.	**Symposia Thu-S5 to Thu-S9:** Amador, Bellini, Bianchi & Kamienkowski, Locatelli & Sumbre, Rossetti.	**Symposia Fri-S10 to Fri-S14:** Espósito & Morgenstern, Goldin, Pigino, Berardino & Sonzogni, Tagliazucchi
11:30 - 12:30	"Eduardo De Robertis" Plenary Lecture **Gustavo Murer: What mechanisms underlie Parkinson's disease symptoms?**	Plenary Lecture: **Zhigang He: From axon regeneration to function recovery after CNS injury**	Plenary Lecture: **Tracy Bale: 50 years since Leloir's Nobel: Maternal stress and energy signals critical to neurodevelopment.**
12:30 - 13:30		Latbrain Initiative	
13:30 - 14:30	Políticas de Ciencia y Técnica en Argentina		IBRO LARC CEPAL: Gender Survey Results
14:30 - 15:30	Young Investigator Talks: Wed-YIT-1 to Wed-YIT-4	Young Investigator Talks: Thu-YIT-5 to Thu-YIT-8	Oral Communications
16:00 - 17:00	Plenary Lecture: **Kay Tye: Neural Representations of Social Homeostasis**	"Hector Maldonado" Plenary Lecture: **Sheena Josselyn: Making memories in mice.**	"Ranwell Caputto" Plenary Lecture: **Juana Pasquini: Cinco décadas de Neurociencias en América Latina: Siguiendo los pasos de Ranwel Caputto**
17:00 - 19:30	E-Poster **Session 1**	E-Poster **Session 2**	E-Poster **Session 3**
19:30 - 21:00	Looking for a postdoc abroad? Tips for international postdoc interviews.	Asamblea SAN	

E-Posters

NEUROCHEMISTRY AND NEUROPHARMACOLOGY

Synthesis and functional evaluation of new analogs of caffeine as modulators of the cholinergic system

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Cholinergic deficit is regarded as an important factor in Alzheimer's disease. Two molecular targets for its treatment are the acetylcholinesterase (AChE) and the nicotinic receptor (nAChR). We previously demonstrated that caffeine acts on nAChRs as a weak agonist and it is known that it inhibits AChE. Here, we synthetized more potent bifunctional caffeine analogs. A theophylline fragment was connected with a pyrrole fragment through homologation from 3 to 7 carbon atoms to form the compounds C3 to C7 (Cn). We found that all Cn inhibited the AChE, having C7 the strongest effect. To explore if the analogs influence the nAChR conformational state, crystal violet (CrV) and nAChR-rich membranes from T. californica were used. The analogs produced changes in the KD values of CrV, being C5 and C6 the most potent. To understand the molecular mechanism underlying these conformational changes, we recorded single-channel events from muscle nAChR. The compounds activated muscle nAChR at low concentrations and the activation was as isolated openings even at the highest Cn concentrations. Our results demonstrate that the new compounds behave as dual modulators by acting as AChE inhibitors and as nAChR agonists. To gain insight about the molecular interaction of these compounds with nAChR we performed in-silico studies. Our results bring new information about the mechanism of modulation of pharmacologic targets for the design of new therapies for the intervention in neurological diseases.