FEDERATION OF EUROPEAN BIOCHEMICAL SOCIETIES
JUNIOR SECTIONS INITIATIVE

Talk by the FEBS Junior Sections initiative

Students and young researchers from some of the FEBS national Societies have started the FEBS Junior Sections initiative, a network of young scientists in the molecular life sciences across Europe. Their next event is a careers talk (organized by the SIB Sezione Giovani, the Junior Section of the Italian Society) on the research path that led to obtaining a drug in the clinical phase bought by Takeda.

Speaker: Prof. Loredano Pollegioni, Università degli Studi dell'Insubria, Italy
Topic: "D-Serine: from unnatural (and negligible) amino acid to (main) neuromodulator involved in relevant human pathologies"
Time: 9 June 2022, 18:00 (CEST)
Registration: https://network.febs.org/posts/sib-sezione-giovani-febs-junior-sections-present-loredano-pollegioni
For more information, see abstract below, the FEBS Network, and Prof. Loredano Pollegioni's webpage.

UNIVERSITAS STUDIORUM INSUBRIAE

Want to be part of a **platform for young European life scientists** and learn more about our initiative? Check out the **Room for Junior Sections of FEBS Societies** on the FEBS Network for previous talks and **join us**!

Presentation abstract from Loredano Pollegioni

On this talk Prof. Pollegioni will talk about the research path that led to obtaining a drug in the clinical phase bought by Takeda.

Amino acids have an α-carbon that is a stereocenter (or chiral center) since it is connected to four different functional groups. Depending on the spatial arrangement of these four groups, two enantiomers exist: the levorotatory (L-) and the dextrorotatory (D-), which are not superimposable images to each other. At difference from the interest attracted by the L-amino acids, less is known about the biological function of the D-amino acids (D-AAs) in mammals.

D-Serine is the D-AA present at the highest concentration in human brain: it plays a key role in the modulation of N-methyl-D-aspartate receptors (NMDARs) acting as an endogenous co-agonist. In the human CNS, D-serine is produced by the racemization reaction catalyzed by serine racemase and degraded by both serine racemase and D-amino acid oxidase (hDAAO). Abnormal levels of D-serine, due to a defective metabolism or release, have been associated with psychiatric and neurodegenerative diseases (e.g., schizophrenia, bipolar disorder, AD, ALS, etc.). To shed light on the regulation of D-serine level in the brain, we investigated the structural and biochemical properties of hDAAO: this flavoenzyme is regulated by small size ligands, cofactor binding, the interaction with specific proteins and post-translational modifications. These studies are opening new options to modulate NMDAR-mediated neurotransmission in physiological and pathological conditions.

More information:

https://www.uninsubria.it/hpp/loredano.pollegioni

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