Seminar/Talk

Behavioral and molecular characterization of the miR379-410 knockout mouse

Martin Lackinger
Philipps University of Marburg

Host: Ryuichi Shigemoto

The brain-enriched miR-134 was one of the first miRNAs for which a function at the synapse and activity dependent dendritogenesis has been described in detail. Its gene is found within a cluster of miRNA in the Gtl2/Dlk1 domain that is also described as the miR379-410 cluster that is the largest known placenta mammal specific miRNA cluster. In this cluster, 39 miRNA genes are expressed only from the maternal allele and are mainly expressed in the brain. Currently, less is known about the molecular and behavioral function of the miR379-410 locus and their regulative miRNAs in vivo during different postnatal development stages. Using a miR379-410 knockout mouse model, we performed a large battery of behavioral tests and molecular/cellular applications to gain insight into the physiological mechanism. We mainly found that the absent of the miR379-410 expression is associated with a hypersocial phenotype, demonstrated in social interaction approaches and increased emitted ultrasonic vocalization calls. This indicates, that miRNAs of this cluster could play a relevant role in neural circuits of emotion regulation. At the molecular level, the hypersocial phenotype of the knockout mice were further assisted by changes in hippocampal gene expression levels, as shown by total RNA deep sequencing on which target validation is now still under investigation.

Tuesday, March 28, 2017 10:00am - 11:00am
Meeting room 2nd floor / Lab Bldg East (I06.02.403)

This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station. Please find a schedule of the ISTA Shuttle on our webpage: https://ista.ac.at/en/campus/how-to-get-here/ The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.