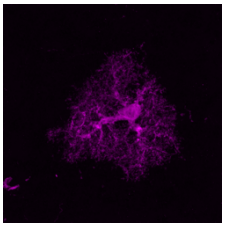
On the occasion of the Jerzy Konorski Prize being awarded to Łukasz Szewczyk and Marta Wiśniewska, the authors will give a lecture related to their work. The lecture will take place on Thursday, January 23, 2025, at 12:00 PM. The event will be held at the Nencki Institute, with the option to attend online via Zoom. The meeting link is: https://zoom.us/j/94852638119?pwd=t6AShLbnDMFJ9gLvbVMV7fPJ5xeB2L.1

You can read the awarded paper here: https://pmc.ncbi.nlm.nih.gov/articles/PMC11078762/



23/01/2025

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Astrocytic β-catenin signaling via TCF7L2 regulates synapse development and social behavior

The Wnt/β-catenin pathway contains multiple high-confidence risk genes that are linked to neurodevelopmental disorders, including autism spectrum disorder. However, its ubiquitous roles across brain cell types and developmental stages have made it challenging to define its impact on neural circuit development and behavior. Here, we show that TCF7L2, which is a key transcriptional effector of the Wnt/β-catenin pathway, plays a cell-autonomous role in postnatal astrocyte maturation and impacts adult social behavior. TCF7L2 was the dominant Wnt effector that was expressed in both mouse and human astrocytes, with a peak during astrocyte maturation. The conditional knockout of Tcf7l2 in postnatal astrocytes led to an enlargement of astrocytes with defective tiling and gap junction coupling. These mice also exhibited an increase in the number of cortical excitatory and inhibitory synapses and a marked increase in social interaction by adulthood. These data reveal an astrocytic role for developmental Wnt/β-catenin signaling in restricting excitatory synapse numbers and regulating adult social behavior.