

Neurons listen to glia cells

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Scientists at Johannes Gutenberg University Mainz (JGU) in Germany have discovered a new signal pathway in the brain that plays an important role in learning and the processing of sensory input. It was already known that distinct glial cells receive information from neurons. However, it was unknown that these same glial cells also transmit information to neurons. The glia release a specific protein fragment that influences neuronal cross-talk, most likely by binding to the synaptic contacts that neurons use for communication. Disruption of this information flow from the glia results in changes in the neural network, for example during learning processes. The team composed of Dr. Dominik Sakry, Dr. Angela Neitz, Professor Jacqueline Trotter, and Professor Thomas Mittmann unravelled the underlying mechanism, from the molecular and cellular level to the network and finally the resulting behavioral consequences. Their findings constitute major progress in understanding complex pathways of signal transmission in the brain.

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