

Poster presentation

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Pannexin I is a novel protein component of postsynaptic sites

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Pannexins (Panx) constitute a new family of gap junction type proteins. Functional expression in paired *Xenopus* oocytes indicated that pannexins are capable of forming communicating junctions and proved to be active in forming of unapposed hemichannels. In the vertebrate brain pannexins have been found in neurons. However, the exact localization of pannexin proteins at the submicroscopical level in brain tissues is still enigmatic.

Here we demonstrate by light and electron microscopical immunohistochemistry that Panx1 reveals postsynaptic localization in hippocampal and cortical principal neurons accumulating at postsynaptic densities. Heterologous expression in hippocampal neurons co-transfected with Panx1 and PSD-95, a prominent postsynaptic scaffolding protein, corroborated the postsynaptic localization. The asymmetric distribution of Panx1 suggests that it may work in form of hemichannels at postsynaptic sites and comprises a novel component of the postsynaptic protein complex.