

INVITED LECTURE T19

Organization of neuronal signaling complexes by multi-domain scaffold proteins

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Transduction of biological signals from receptors at the plasma membrane to their targets in cytoplasm and nucleus relies on specific protein-protein interactions. A common strategy used by cells is to organize proteins in the same signaling cascade or several related signaling pathways into large molecular weight, multi-protein complexes. Such large signaling complex organization often relies on multi-domain scaffolding proteins. These scaffold proteins can further oligomerize to form supramolecular structures. Many PDZ domain proteins are multi-domain scaffold proteins, and have been shown to play important roles in assembling various signaling complexes. I will discuss the structural basis of neuronal signaling complex organization mediated by several PDZ domain proteins in my talk.