Neural Plasticity

Hindawi

Special Issue on

New Insights into the Role of the Locus Coeruleus-Noradrenergic System in Memory and Perception Dysfunction

CALL FOR PAPERS

The locus coeruleus (LC) is a nucleus in the brainstem and the main origin of noradrenaline (NA) in the brain connected to memory-relevant regions such as the hippocampus. The LC-NA system is decisive for modulating hippocampal long-term plasticity and crucial for memory engrams. The LC is known to be one of the primary sites of neurodegeneration in patients with Alzheimer's disease and in animal models of Alzheimer's disease. One of the leading symptoms of Alzheimer´s disease is memory dysfunction. LC parameters have recently been discovered to be novel biomarkers in dementia. Furthermore, the LC-NA system is important for perception.

We invite authors to delineate the pathophysiological role of the LC-NA system in memory and perception dysfunction and in demential disorders in the form of original research articles, theories, method protocols, and classifications. Basic knowledge might be translated into a clinical research framework. Basic research studies, reviews, and perspectives are welcome, as are studies of applied research.

Potential topics include but are not limited to the following:

- Characterization of the activation/ deactivation of the locus coeruleus in order to modulate neural plasticity relevant for memory and/or perception dysfunction
- Recent discoveries of the locus coeruleus-noradrenaline system on different levels such as behavioral, morphological, molecular, and network with relevant aspects for memory and/or perception dysfunction
- Novel methodological approaches such as optogenetics or neuroimaging protocols to delineate the role of the locus coeruleus in memory and/or perception dysfunction
- Structural and functional interactions of the locus coeruleus-noradrenaline system with the hippocampus concerning memory dysfunction
- Neurobiology of the locus coeruleus in Alzheimer's disease and other synaptopathies with memory disturbances

Authors can submit their manuscripts through the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/np/nirl/.

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