

Tentative Outline

Special Thematic Issue for the journal CNS & Neurological Disorders - Drug Targets

Title of the Thematic Issue: "Noradrenergic System Modulation in CNS Disorders"

Sectional Editor: Dr. Filippo Sean Giorgi

- **Scope of the Thematic Issue:**

The aim of this thematic issue is to emphasize the potential role of drugs acting on central adrenergic receptors in various CNS (central nervous system) conditions. Specific attention will be dedicated to the degeneration of the main CNS noradrenergic nucleus, the Locus Coeruleus (LC), and its role in the pathogenesis of both Alzheimer's disease (AD) and Parkinson's disease (PD). In this regard, an essential prerequisite for any therapeutic approach would be to identify patients with LC lesions. Therefore, some papers will discuss current tools for estimating LC integrity, utilizing Magnetic Resonance Imaging and/or pupillometry. Other papers will focus on the interaction between LC and neuroinflammation, as well as present current data demonstrating the potential effect of adrenergic drugs in AD or PD. Epilepsy is another CNS disorder for which there is a range of evidence supporting the potential role of NA (noradrenaline)-related drugs, as several studies have shown a powerful anticonvulsant effect of NE. Additionally, certain neurodevelopmental disorders, such as autism, appear to be associated with an altered NA system

Keywords: noradrenaline; adrenergic receptors; locus coeruleus; Parkinson's disease; Alzheimer's disease; neurodegenerative disorders; epilepsy

Sub-topics:

- The role of Noradrenaline in neurodegenerative diseases
- The role of Noradrenaline in cognition
- The role of noradrenaline in epilepsy and neurodevelopmental disorders
- The interaction between noradrenaline and neuroinflammation
- Advanced Tools for identifying Noradrenergic system-related biomarkers in patients with neurodegenerative disorders

Tentative titles of the articles:

- Potential role of adrenergic receptor-acting drugs in Alzheimer's Disease.
- Pupillometry as a tool for assessing Locus Coeruleus noradrenergic alteration in Alzheimer's Disease?
- Imaging biomarkers of Locus Coeruleus.
- The effects of Antidepressant drugs in epilepsy: a role for noradrenaline?
- The role of brain noradrenaline in Vagal Nerve Stimulation efficacy in epilepsy.
- Central noradrenergic system involvement in Parkinson's Disease.
- Noradrenergic deficit in neurogenic Orthostatic Hypotension: a beneficial effect by threo-DOPS?
- CNS Noradrenergic system and neuroinflammation. -Is there a role for noradrenaline in autism?
- The potential key role of noradrenaline in proneness to seizures in Alzheimer's Disease: potential diagnostic and therapeutic implications.

Schedule:

- Thematic issue submission deadline: **December 31st, 2023**

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