1. Intranasal Cy3-NPS application identifies the hippocampus as a novel NPS target region

NPS has high potential as an alternative anxiolytic therapy for anxiety disorders

2. Intranasally applied NPS exerts anxiolytic effects in C57BL/6N mice and regulates protein and gene expression in the hippocampus (HC)

3. Local NPS injections into the ventral CA1 (vCA1) region lead to anxiolytic effects in C57BL/6N mice

4. Intranasally applied NPS impacts on basal glutamatergic neurotransmission and plasticity at CA3-CA1 synapses and weakens neuronal activity flow from DG to CA1

III. NPS in hippocampal pathology

1. Intranasally applied NPS affects glutamatergic neurotransmission and plasticity in high anxiety behavior (HAB) mice

2. Intranasal NPS treatment counteracts pathological changes in hippocampal synapsin levels in a mouse model of PTSD

Overview

in the hippocampus, NPS regulates expression of proteins involved in synaptic function at the presynaptic site (synapsin) and in glia cells (Glt-1)

NPS actions in the ventral hippocampus may contribute to the anxiolytic effects of NPS treatment via modulation of amygdala activity