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Input-output specific orchestration of aversive valence in lateral habenula during stress dynamics

Key words: Lateral habenula; Neural circuits; Aversion; Stress dynamics; Depression-like state; Head-to-head comparison

Research Summary

LHb orchestrates aversive valence of various stressors via specific input-output configurations

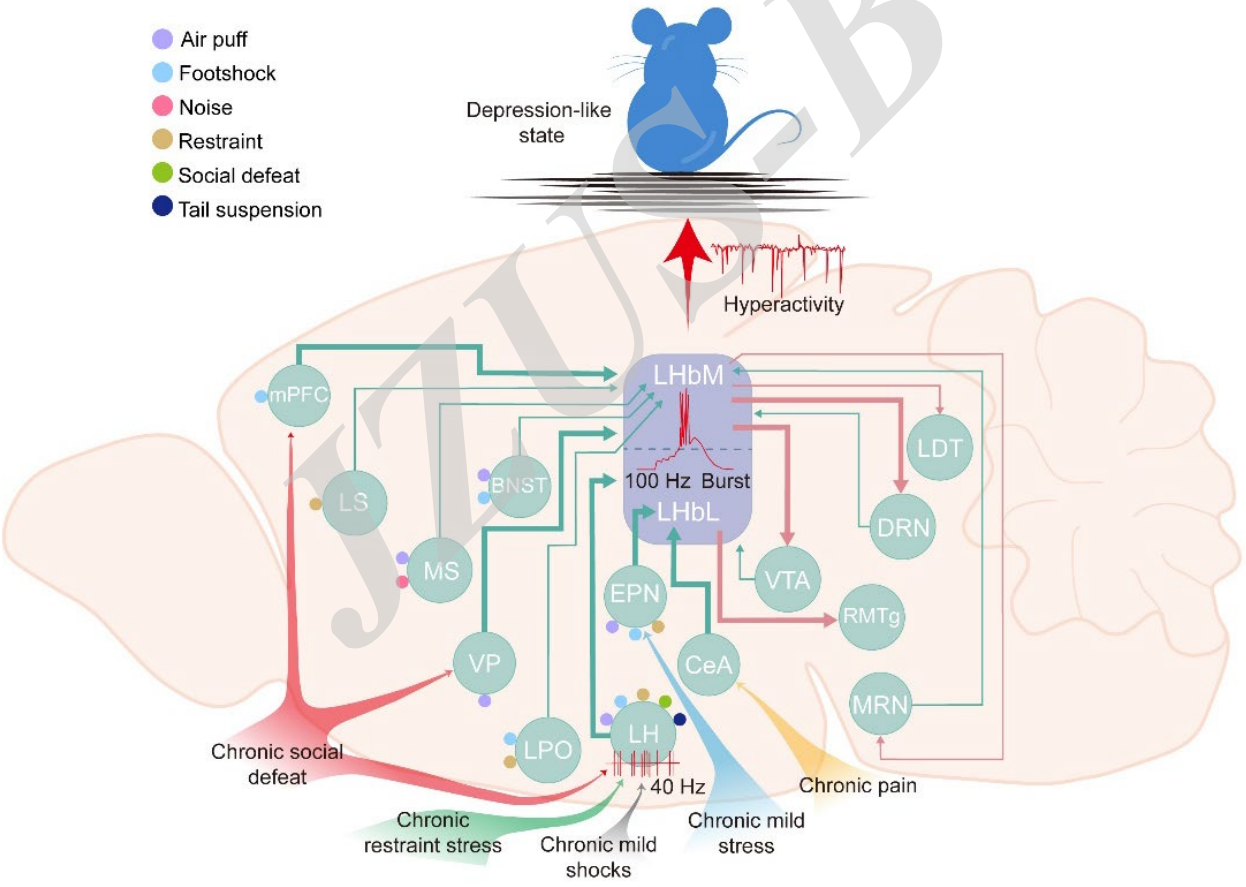


Fig. 1

Innovation points

In this review, we attempt to describe a framework in which LHb orchestrates aversive valence via the input-output specific neuronal architecture.

Part 1 | Neuronal hyperactivity and burst firing in the LHb as common biomarkers of depression-like state.

Part 2 | Input-specific integration of aversive valence in LHb subregions.

Part 3 | A physiological form of Hebbian plasticity at LH-LHb synapses encodes chronic stress and triggers depression-like state.

Part 4 | Output-specific assignment of aversive valence from LHb subregions to the midbrain.

Part 5 | Feedback loops from the midbrain encode heterogeneous emotional valences.

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