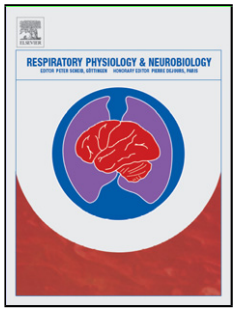

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Participation of locus coeruleus in breathing control in female rats

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Highlights

- LC noradrenergic neurons of intact female rats exert an excitatory role in the hypercapnic ventilatory response.
- LC noradrenergic neurons of ovariectomized female rats provide a tonic excitatory drive to maintain breathing frequency.
- Ovariectomy decreased CO_2 chemosensitivity and no further ventilation reduction is observed after LC lesion.

Abstract

Several evidences indicate that the locus coeruleus (LC) is involved in central chemoreception responding to CO_2/pH and displaying a high percentage of chemosensitive neurons (> 80%). However, there are no studies about the LC-mediated hypercapnic ventilation performed in females. Therefore, we assessed the role of