

群馬大学医学系研究科・大学院教育研究センター主催

第3回 ERCGSM レクチャー

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Inhibitory neurotransmission in the respiratory network: neuronal and glial mechanisms of network stabilisation

日時:平成 20 年 3 月 21 日(金)17:00~18:00
場所:基礎棟 2 階 基礎小講堂

Normal breathing requires a complex pattern of neuronal activity resulting in alternating contractions and relaxation of respiratory muscles. The neurons controlling the activity of respiratory motoneurons are forming a fine tuned neuronal network extending throughout the ventrolateral medulla oblongata, also including certain pontine nuclei. The current picture of rhythm generation involves both network and cellular aspects. The concerted action of both mechanisms allows this vital behavior to be functioning lifelong. In this network rhythm generation and pattern formation is strongly depending on synaptic inhibition. Therefore, we have especially focused on neuronal and glial mechanisms, which stabilize the respiratory network using electrophysiology and optical imaging. We were able to demonstrate that the loss of the glial glycine transporter type 1 (GlyT1) leads to severe disturbances of glycinergic synaptic transmission and network activity and early postnatal death. Furthermore the talk will highlight different results from different knock out models involving neuronal disturbances of glycinergic inhibition. Taken together, the talk will provide an overview about our recent understanding of synaptic inhibition in the respiratory network.

主 催: 群馬大学医学系研究科・教育研究センター

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(備考) 大学院カリキュラムの講義一回分として教務委員会で承認予定ですので、大学院生は単位認定カードを持参してください。