

生命科学

大脑前额叶扣带回皮层调制丘脑触觉信息的途径研究

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摘要 大脑前额叶扣带回皮层是一个与感觉功能密切相关的脑区,它能够对丘脑触觉反应进行调制.实验在10只戊巴比妥钠(1%)麻醉的SD雄性大鼠上进行,采用辣根过氧化物酶(horseradish peroxidase, HRP)逆行标记的方法,对扣带皮层前部调制丘脑腹侧基底核(ventrobasal, VB)感觉信息的途径进行了研究.实验结果显示,VB核可以接受扣带皮层后部的投射,而且扣带皮层前部有纤维投射到扣带皮层后部.由此提示了前扣带皮层对丘脑腹侧基底核神经元触觉信息调制的可能神经环路是:扣带皮层前部-扣带皮层后部-丘脑腹侧基底核.

关键词 [前额叶皮层](#); [触觉](#); [丘脑腹侧基底核](#); [HRP](#); [前扣带皮层](#)

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Study on pathways of modulation of thalamic tactile information by anterior cingulate cortex(Chinese)

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Abstract

The cingulate cortex in the prefrontal cortex is an encephalic region that closely relates to the sensory function. The thalamic tactile response can be modulated by cingulate cortex. Using horseradish peroxidase (HRP) retrograde tracing technique, the pathway that anterior cingulate cortex (ACC) modulates sensory information of thalamic ventrobasal (VB) nucleus was investigated. The experiments were performed using 10 Sprague-Dawley (SD) rats that were anesthetized with nupentil (1%). The results suggested that VB nucleus could accept the projections from posterior cingulate cortex (PCC). In addition, PCC had projections from ACC as well. Therefore, the circuit loop of ACC-PCC-thalamic VB nucleus might be one of the pathways by which ACC modulates the activities of tactile neurons in thalamic VB nucleus.

Key words [prefrontal cortex](#) [tactile information](#) [thalamic VB nucleus](#) [HRP](#) [ACC](#)

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