

Oral Physiology

The long-term goal of this laboratory is to understand the neural mechanism of oro-facial function maintaining systemic conditions and quality of life.



Prof. Ryuji Matsuo

Main Researches

Autonomic nervous systems for salivation and blood flow in the oro-facial region

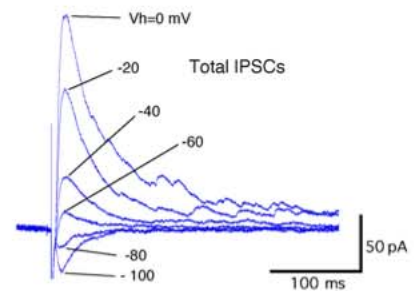
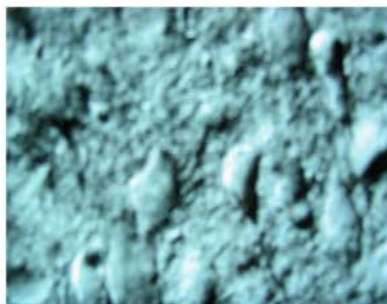
During feeding and drinking, the autonomic nervous system controls salivary secretion and blood flow. This neural mechanism is examined by a patch-clamp technique using sliced brain preparations (Figures), and excitatory and inhibitory neural connections are visualized by an immuno-histochemical technique.

Neural mechanism of oral sensory function

Oral sensory inputs (taste, tactile and thermal) are analyzed by electrophysiological techniques in anesthetized and freely moving animals. For example, we have studied effects of ageing and dry mouth on taste perception.

Reflexes in the upper alimentary canal during feeding

Feeding behavior is evaluated by stimulation of the brain and by analyzing release of neurotransmitters. Neural mechanisms of movement of jaw and stomach, swallowing, and vomiting are also examined by electrophysiological techniques .



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