

## Nerve endings in rat periodontal ligament: an immunofluorescence study

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Periodontal ligament is a structure between tooth root and alveolar bone. A few morphological study on the sensory innervation of periodontal ligament are available. Although there has been controversy over the distribution and shape of the sensory nerve terminals, researchers largely agree on the presence of two types of nerve endings: free endings and organized structures as Ruffini-like and Meissner corpuscles. Ruffini-like are slowly adapting receptors and give informations about the intensity and duration of the mechanical stimulus applied to the periodontal ligament; Meissner's corpuscles are rapidly adapting receptors and give informations about direction of mechanical stimuli to the tissue. In the present study we investigated, by immunofluorescence for protein gene product PGP 9.5, the distribution of nerve endings among the different regions of periodontal ligament both of incisors and molars of rat. We found a variety of nerve endings morphology and several difference about their distribution between incisors and molars periodontal ligament. Moreover, we found that the morphology of nerve endings changes depending on the modification of the force applied to periodontal ligament, highlighting its importance in regulation of muscle activity.

### References

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- [2] Byers (1985) Sensory innervation of periodontal ligament of rat molars consists of unencapsulated Ruffini-like mechanoreceptors and free nerve endings. *J Comp Neurol.* 22;231(4):500-18.

### Keywords

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Periodontal ligament; PGP 9.5; rat.