

Z209      **Dose-Dependent Ultrastructural Changes of Odontoblasts Induced by Fluoride in Developing Dental Tissues of the Rat**

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Odontoblasts are known to be involved in the dentin formation, differentiate as a single layer of tall columnar cells on the surface of the dental papilla apposed to the ameloblast layer of the enamel organ. Fluoride was administered to rats in varying doses (100, 200, 300 ppm) in order to study the likelihood of ultrastructural alterations to odontoblasts and dentin as well. Incisor from 11 days old neonatal rats were examined in the light and transmission electron microscope with particular attention to intratissue organization and extracellular matrix. In light microscopic observation, odontoblasts lay as a single row of cells at the periphery of the pulp on the inner aspect of dentin. Fine structural analyses showed that odontoblasts were tall, columnar-like cells with basal nuclei, much granular endoplasmic reticulum, and a large supranuclear Golgi apparatus. Apically, toward the dentin, the cells showed that a cell web with junctional complexes and long, slender, cytoplasmic processes, called Tomes dentinal fibers. From light and electron microscopic studies, we concluded that fluoride administration via the drinking water was associated with ultrastructural changes to the odontoblasts.

Z210      **Ultrastructure of Epididymal Spermatozoa in Three Korean Shrews**

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Spermatozoon ultrastructure of three *Crocidura* species, the *Crocidura lasiura*, the *C. dsinezumi*, and *C. suaveolens* was studied. The spermatozoa in *C. lasiura* and *C. dsinezumi* were exactly the same in morphology, and possessed the general features of the Crocidurinae, i.e. the flattened shield-shaped head, common apical body surrounded by the serrated inner acrosomal membrane, fistulous lumen with little electron dense granular materials in the proximal centriole and the short post-nuclear cap. However, *C. suaveolens* was distinguished from the two species in having the following soricine characters i.e. the slender, wavy and electron-dense apical body surrounded by the smooth inner acrosomal membrane, solid lumen filled with electron-dense materials in the proximal centriole and the relatively long post-nuclear cap, although it has also the flattened shield-shaped sperm head, a crocidurine characteristic. Conclusively, the spermatozoa in *C. suaveolens* seemed to possess the characteristics not only of the Crocidurinae but also of the Soricinae.