

Ultrastructural aspects of dental tissues and their behavior in xenoplastic association (lizard quail)

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Ultrastructural characteristics of tooth buds of the polyphyodont adult lizards *Liolaemus tenuis* and *Liolaemus gravenhorsti* have been elucidated. Xenoplastic combinations of lizard whole tooth buds and neural crest cells from embryos of the quail *Coturnix coturnix japonica* have been cultured in vitro. Mesenchymal cells (preodontoblasts) of lizard teeth early develop filopodia that contact the basal lamina. Fragments of quail neural crest isolated by dissection were recombined with isolated lizard tooth buds and cultured for 84 hours in dishes kept in an incubator at 37.8°C in air. Some identifiable quail cells in these recombinants developed a cytoplasmic extension like that of an odontoblastic process. These results suggest that lizard tooth rudiments already determined for tooth development produce some non-species specific transmissible constituents which are capable of inducing quail cranial neural crest cells to express certain dental characteristics (odontoblastogenesis) not expr