Detection of sugar residues in rabbit embryo teeth with lectin- horseradish peroxidase conjugate: II. A light microscopal study

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The cellular distribution and changes of sugar residues during tooth development in embryos of the rabbit Oryctolagus cuniculus were investigated by using horseradish peroxidase-conjugated lectins (lectin-HRP). The lectins SBA, ECA, and LTA show no binding to any region of the dental cap and bell stages, whereas BS-1 and UEA-1 bind to dental cells at both stages. Appropriate control studies confirmed the specificity of the binding of the lectins. At cap stage, the lectins BS-1 and UEA-1 show moderate binding to the (pre)-ameloblast and (pre)-odontoblast cells. These results suggest that the acetylgalactosamine and ?-L-fucose residues present in (pre)-ameloblasts and (pre)-odontoblasts, respectively, are common to determined but relatively undifferentiated cells capable of forming matrices of hard tissues. Since the odontoblast and ameloblast express dentin and enamel, respectively, it can be speculated that the abundance of these residues in these cells might be associated with the mai