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论著

转化生长因子β3在小鼠牙胚钟状晚期以后发育中的表达和分布

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摘要：

目的：观察转化生长因子β3（transforming growth factor β3, TGF-β3）在小鼠牙胚钟状晚期以后发育中的表达分布，探讨其在小鼠牙胚钟状晚期以后发育中的作用。方法：取近交系BALB/C小鼠出生后4 d (4 days postnatal，4dpn)、11 d (11dpn)及18 d (18dpn)的牙胚，常规固定、脱钙、包埋、切片，用SP法免疫组织化学染色技术检测TGF-β3 在各牙胚中的表达。结果：4dpn牙胚成釉细胞层、成牙本质细胞层呈强阳性表达，牙乳头周边区域细胞呈阳性表达，中间区域呈弱阳性表达；11dpn牙胚成釉细胞层呈弱阳性表达，成牙本质细胞层、牙乳头细胞呈阴性表达；18dpn牙胚牙周膜中的血管壁及周围呈强阳性表达，牙本质、牙骨质、牙周膜成纤维细胞呈阴性表达。结论：TGF-β3 在小鼠牙胚钟状晚期以后发育过程中的表达具有一定的时空分布性，可能在牙胚发育中有一定的调控作用，这种作用可能随着牙胚的发育而逐渐减弱。

关键词： 牙胚；转化生长因子β3 ；免疫组织化学

Expression and distribution of transforming growth factor β3 in the mouse tooth germ during development after advanced bell stage

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Abstract:

ObjectiveTo observe the expression and distribution of transforming growth factor β3 (TGF-β3) in the mouse tooth germ after advanced bell stage, and to discuss the role of TGF-β3 during the development of tooth germs. MethodsBALB/C’s mouse tooth germs at 4, 11, and 18 days postnatal （4dpn,11dpn,and 18dpn） were collected and processed for routine fixation, decalcification, embedding, and slicing. The expression of TGF-β3 was detected by immunohistochemisty. ResultsAs to 4dpn tooth germ: Positive expression of TGF-β3 was found in enameloblasts, odontoblasts, ambitus of dental pupilla, with weak positive expression in the intermedial of dental papilla. As to 11dpn tooth germ: Positive expression was seen in enameloblasts, with negative expression in odontoblasts and dental papilla. As to 18dpn tooth, positive expression of TGF-β3 was showed in the vessel wall and its surrounding, with negative expression in other areas. ConclusionThe distribution of TGF-β3 expression showed a time-space characteristic during the mouse tooth germ development after advanced bell stage, which may exert a regulatory effect on tooth development and this effect is gradually getting weak with the development of tooth germs.

Keywords: tooth germ；transforming growth factor β3；immunohistochemistry

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