

论著

HSP47在小鼠腭裂和短肢发生过程中的表达

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摘要 背景与目的: 研究热休克蛋白47基因(Heat shock protein 47,HSP47)在小鼠胚胎腭、前肢正常和异常的发育过程中的表达情况。材料与方法: 在GD10经口一次分别给予各实验组孕鼠80 mg/kg的全反式视黄酸, 对照组孕鼠给予等体积的植物油, 并分别于GD11~GD18取两组胎鼠的前肢, 于GD15~GD17取两组胎鼠的腭, 利用RT-PCR方法半定量检测HSP47的表达丰度。结果: HSP47在所有样品中均有表达, 其在GD11~GD18正常、异常发育肢的表达均呈随胚龄增大而增加的趋势, 对照肢和实验肢分别于GD16、GD17达到高峰, 以后基本恒定; 其在GD15~GD17正常腭中恒定表达、异常腭中以GD16表达最高; 异常肢的表达丰度在GD11~GD18均高于正常肢, 正常腭和异常腭的表达丰度在GD15无差异, 但在GD16~GD17异常腭的表达丰度则高于正常腭。结论: 全反式视黄酸所致的短肢和腭裂中, HSP47的表达呈应激性升高。

关键词 [热休克蛋白47](#); [胚胎](#); [肢](#); [腭](#); [发育](#)

Expression of HSP47 in Cleft Palates and Short Limb Malformations, Induced by Retinoic Acid During Mouse Embryogenesis

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Abstract BACKGROUND & AIM: To study the expression of heat shock protein 47 (HSP47) in normal forelimbs and short forelimb malformations, normal palates and cleft palates during mouse embryogenesis. **MATERIAL AND METHODS:** At GD10, gestational mice of the treatment and the control groups were administered with 80 mg/kg all-trans retinoic acid and the same volume vegetable oil separately. The forelimbs of embryos were harvested in GD11-GD18, and the normal palates and cleft palates were obtained in GD15-GD17. The relative abundance of HSP47 of all samples was measured by reverse transcript polymerase chain reaction (RT-PCR). **RESULTS:** HSP47 was expressed in all samples. To the normal forelimbs and short forelimb malformations, with the embryos aging, there was the increasing tendency of the expressional abundance of HSP47 in GD11-GD18, their peaks of expression were especially at GD16 and GD17, and kept stable in the following age. The expressional abundance of HSP47 of the normal palates was stable in GD15-GD17, and the peak of that of the cleft palates was at GD16. The expression of HSP47 of the abnormal limbs was stronger than that of the normal limbs in GD11-GD18. The expression of HSP47 of the cleft palates has no difference with that of the normal palates in GD15, but it was stronger than that of the cleft palates in GD16-GD17. **CONCLUSION:** The expressional abundance of HSP47 in normal limbs and short limb malformations, normal palates and cleft palates induced by all-trans retinoic acid during mouse embryogenesis was increased by stress action.

Keywords [heat shock protein 47](#); [embryo](#); [limbs](#); [palates](#); [development](#)

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