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·论著·

## HBV 表面抗原 DNA 疫苗对小鼠脏器影响的实验研究

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**摘要:**目的:用乙型肝炎病毒(HBV, Hepatitis B Virus)表面抗原 DNA 疫苗对小鼠进行基因免疫,观察主要脏器病理形态改变,探讨该 DNA 疫苗是否对肝、肾、脾等有损伤作用。方法:用乙型肝炎表面抗原(HBsAg) DNA 疫苗经肌肉注射法免疫小鼠;ELISA 法检测小鼠血清抗 HBsAg 抗体水平。免疫 12 周后取小鼠肝、肾、脾等组织,观察其病理形态改变情况。结果:DNA 疫苗接种 1 周后,免疫组小鼠血清中可检测到抗 HBsAg 抗体,12 周后多只小鼠脾脏明显增大,肝、肾组织切片染色观察,可见免疫组小鼠的肝、肾组织均有不同程度的病理改变。结论:HBsAg DNA 疫苗可诱导小鼠机体产生特异性抗体(可诱发全面、持久的免疫应答)持续 12 周以上,同时伴有脾脏肿大和肝肾损伤提示,该 DNA 疫苗表达产物与免疫小鼠脏器病变有一定的关系,对其临床应用前景值得进一步探索。

**关键词:**乙型肝炎病毒;表面抗原;DNA 疫苗;病理改变

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## EFFECT OF HBsAg DNA VACCINE ON MOUSE ORGANS

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**Abstract:** To study the pathological change of organs of mice immunized by HBsAg DNA vaccine. **Methods:** HBsAg vaccine was injected into muscles of mice. Anti - HBsAg antibody was analyzed by ELISA. After 12 weeks, the immunized mice were killed and those organs were analyzed by pathological methods. **Results:** Anti - HBsAg antibody in mice was positive after one week. Spleens of mice were 4 folds larger than control. Kidneys and livers were severe injured. **Conclusion:** HBsAg vaccine can induce mice to create antibody, lasting 12 weeks and more. But, pathology change of organs indicated that the production of vaccine or related reactions may give rise to the damage of the organs of mice. This result makes us to study the safety of HBsAg vaccine further.

**Key words:** Hepatitis B virus; surface antigen; DNA vaccine; pathology change

基因疫苗(DNA 疫苗)是预防和治疗用抗传染性 疾病疫苗的研究热点。最近几年,基因工程乙型肝炎

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·论著·

## 环磷酰胺、噻替哌诱发人支气管上皮细胞的染色体畸变

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**摘要:**目的与方法:以永生化人支气管上皮细胞(BEAS-2B)受环磷酰胺、噻替哌诱导并发生癌性转化的细胞为模型,运用染色体G—显带技术,观察环磷酰胺、噻替哌的遗传毒作用引起的细胞转化过程中的染色体动态畸变。结果:BEAS-2B细胞染色体数46条,近二倍体,核型稳定,携带有M1、M2、M3三个标志染色体。环磷酰胺转化细胞(BEAS-CP)为二倍体核型,丢失了1个14号染色体,增加了M4异常染色体,该畸变可能与细胞转化的始动、促进和进展有关。噻替哌转化细胞(BEAS-T)在培养过程中渐趋多倍体细胞,15代以后部分细胞的14和21号染色体各丢失1条,BEAS-T 23代在软琼脂上形成克隆的细胞(BEAS-ST)是多倍体细胞,并具有高频率的非稳定性畸变,BEAS-T 25代时为3%,BEAS-ST为34%,多倍体背景上出现2对巨型三着丝粒染色体。结论:所发现的染色体畸变与细胞全面恶性转化之间存在明显关联。

**关键词:**染色体;畸变;核型;永生化人支气管上皮细胞(BEAS-2B);环磷酰胺转化细胞(BEAS-CP);噻替哌转化细胞(BEAS-T)

中图分类号:R979.1.R99

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## CYTOGENETIC ANALYSIS OF TRANSFORMED HUMAN BRONCHIAL EPITHELIAL CELLS INDUCED BY CYCLOPHOSPHAMIDE AND THIOTEPA

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**Abstract: Purpose and Methods:** Utilizing a cell transformed model composed of a human bronchial epithelial cell line (BEAS-2B), BEAS-2B cell transformed by cyclophosphamide (BEAS-CP) and thiotepa (BEAS-T), cytogenetic alteration associated with neoplastic transformation of human bronchial epithelial cells was observed. **Res-**

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疫苗的蓄积及肾小管细胞在吸收疫苗后其表达产物对肾脏也可能产生损伤影响,但这一结论还有待于进一步研究。

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