

兽医—研究报告

病犬大肠杆菌16S rRNA甲基化酶基因检测研究

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摘要:

摘要: 为了解郑州市发病犬大肠杆菌对氨基糖苷类药物高度耐药的16S rRNA甲基化酶流行情况, 本研究测定了分离自河南郑州市宠物医院发病犬的123株大肠杆菌对氨基糖苷类代表药物阿米卡星的敏感性; 分别设计6种16S rRNA甲基化酶基因特异性引物, 对耐药分离株进行16S rRNA甲基化酶基因PCR扩增检测。检测结果显示, 在发病犬大肠杆菌中仅检测到armA和rmtB, 其检出率分别为3.25% (4/123)和38.2% (47/123)。其中, 有3.25% (4/123)的大肠杆菌可同时检测到armA和rmtB。这些结果提示, 此地区发病犬大肠杆菌16S rRNA甲基化酶基因以rmtB为主。病犬细菌一旦携带这些耐药基因, 可导致对氨基糖苷类药物高度耐药, 应引起重视。

关键词: 16S rRNA甲基化酶

Molecular Detection of 16S rRNA Methylase genes among Escherichia coli Strains Isolated from Diseased Dogs

Abstract:

Abstract: In order to investigate the epidemiology of 16S rRNA methylases which mediated the high level resistance to aminoglycosides among Escherichia coli strains isolated from diseased dogs in zhengzhou city of He' nan province. 123 E. coli strains were isolated from clinic samples in diseased dogs. Antibacterial susceptibility determinations were performed and six types of 16S rRNA methylase genes were detected by PCR. Of six types of 16S rRNA methylase genes, only armA and rmtB were detected and the positive rates among these E. coli strains were 3.25% (4/123) and 38.2% (47/123), respectively. The concurrence rate of armA and rmtB genes in E. coli strains in diseased dogs was 3.25%. These results suggested 16S rRNA methylases among E. coli strains isolated from diseased dogs were prevalent in zheng zhou city of He' nan province, with rmtB dominant. One the pathogens in dogs carried these resistant genes, which could result in the high level resistance to aminoglycosides. So, this serious situation should cause concern.

Keywords: 16S rRNA methylase

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