

عنوان مقاله:

Molecular detection of the beta-lactamase Cefotaxime gene in Escherichia coli from the reproductive tract of Bali cattle with repeat breeder cases on Lombok island

محل انتشار:

گفتمان پژوهش دامپزشکی، دوره 15، شماره 8 (سال: 1403)

تعداد صفحات اصل مقاله: 7

نویسندگان:

Kholik Kholik - Department of Veterinary Public Health, Faculty of Veterinary Medicine, Universitas Pendidikan Mandalika, Mataram, Indonesia

Pudji Srianto - Department of Veterinary Reproduction, Faculty of Veterinary Medicine, Airlangga University, Surabaya, Indonesia

Aulanni'am Aulanni'am - Laboratory of Department of Chemistry, Faculty of Veterinary Medicine, Universitas Brawijaya, Malang, Indonesia

Sri Pantja Madyawati - Department of Veterinary Reproduction, Faculty of Veterinary Medicine, Airlangga University, Surabaya, Indonesia

خلاصه مقاله:

This study aims to detect Escherichia coli which encodes beta-lactamase Cefotaxime (blaCTX-M) gene from the reproductive tract of Bali cattle with repeat breeder cases. This research was conducted from June to August ۲۰۲۱ using ۱۶ Bali cattle with repeat breeder cases. The reproductive fluids were taken using a plastic sheet gun which was inserted into a Brain Heart Infusion medium, isolated in eosin-methylene blue agar (EMB) and identified using biochemical tests. Antibiotic susceptibility testing of E. coli was carried out using the disc diffusion method. Double-disk approximation test was used to screen the presence of E. coli which produces Extended-spectrum beta-lactamase. The polymerase chain reaction (PCR) method was used to detect the blaCTX-M gene of E. coli and sequences of the blaCTX-M gene were phylogenetically analyzed. The research results obtained three E. coli isolates from ۱۶ reproductive tract fluids of Bali cattle. Antibiotic sensitivity tests showed that ۱۰۰% of E. coli was resistant to penicillin G and oxytetracycline. ۶۶.۶۶% of E. coli was resistant to cefotaxime (CTX) and gentamicin, and ۳۳.۳۳% of E. coli was resistant to tetracycline. Escherichia coli isolates that were resistant to penicillin and CTX showed positive results in the double-disk approximation test. The results of E. coli detection using PCR showed that three E. coli isolates encoded the blaCTX-M gene located at ۳۷۰ bp on gel electrophoresis. The results of the phylogenetic analysis showed that E. coli from the reproductive tract of Bali cattle was related to E. coli that encoded blaCTX-M-۱۴ isolated from humans.

کلمات کلیدی:

Bali cattle, blaCTX-M, Escherichia coli, Repeat breeder

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/2057417>

