Isolation and identification of green colonies Vibrio spp on TCBS Agar from cockles. / Leong Chee Keong.

Lihat sebelah

ISOLATION AND IDENTIFICATION OF GREEN COLONIES *Vibrio* spp. ON TCBS AGAR FROM COCKLES (*Anadara granosa*)

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ABSTRACT

Genus and identification of bacteria species in foods and clinical specimen are important. In Malaysia, one of the most important bivalve molluscs in aquaculture is blood cockle (*Anadara granosa*). The consumption of bivalve molluscs is a major source of cheap animal protein from marine organisms. However, it is capable of causing food poisoning outbreak due to *Vibrio* spp. In the present study, the samples were bought from Wet Market located in Batu Enam, Kuala Terengganu. Conventional tests such as morphological, biochemical and physiological tests were used to identify the green colonies *Vibrio* spp. on TCBS agar isolated from cockles (*A. granosa*). Beside, by using software NTSYS pc version 2.1, the numerical taxonomy was also used to cluster the *Vibrio* spp. They were compared with refer database of two green colonies *Vibrio species* which were *V. parahaemolyticus* and *V. vulnificus*. Here the isolates were identified as *V. parahaemolyticus* due to the similarity obtained from the numerical analysis was ranged from 76.92% to 88.89%. Isolate 6 having the lowest percentage of similarity while the highest similarity was isolate 3. The *vibrios* contents in blood cockles were in high amount ranged from 1.76×10^5 CFU·g-1 to 2.24×10^5 CFU·g-1. Presence of pathogenic *V. parahaemolyticus* isolates were detected where, 8 isolates showing β-haemolysis and 3 isolates were α-haemolysis on blood agar.

ABSTRAK

Genus dan pengenalpastian spesies bakteria dalam makanan dan spesimen klinikal adalah penting. Dalam Malaysia, kerang darah (*Anadara granosa*) merupakan salah satu jenis kerang yang penting dalam sektor akuakultur. Pengambilan kerang merupakan satu sumber utama bagi protein haiwan murah daripada organisma marin. Bagaimanapun, ia telah menyebabkan wabak keracunan makanan disebabkan oleh *Vibrio* spp. Dalam laporan ini, ujian-ujian konvensional seperti ujian-ujian morfologikal, biokimia dan fisiologikal digunakan untuk mengenalpasti koloni-koloni hijau *Vibrio* spp. di atas agar TCBS yang dipencil daripada kerang (*Anadara granosa*). Sebagai tambahan, perisian pc NTSYS versi 2.1, taksonomi berangka juga digunakan untuk kelompok *Vibrio* spp. Sampel-sampel telah dibanding dengan dua jenis koloni hijau spesies *Vibrio* iaitu *Vibrio parahaemolyticus* dan *Vibrio vulnificus*. Keputusan daripada analisis berangka telah mengenalpastikan *Vibrio parahaemolyticus* adalah serupa dengan sampel-sampel dan peratusan kesamaan didapati adalah meletakkan dari 76.92 % hingga 88.89 %. Sampel 6 mempunyai peratusan terendah persamaan manakala tertinggi adalah Sampel 3. Selain itu, dalam laporan ini didapati kandungan *Vibrios* di dalam kerang adalah berkuantiti tinggi iaitu daripada 1.76×10^5 CFU g^{-1} to 2.24×10^5 CFU g^{-1}. Didapati *vibrio parahaemolyticus* adalah bahaya di mana, lapan sampel menunjukkan β-hemolisis dan tiga sampel adalah α-hemolisis di atas agar "Blood".