

Intisari

RESISTENSI *Vibrio parahaemolyticus* YANG DIISOLASI DARI UDANG VANAME (*Litopenaeus vannamei*, Boone 1931) TERHADAP OKSITETRASIKLIN, ENROFLOKSASIN, DAN ERITROMISIN

Vibrio parahaemolyticus merupakan salah satu bakteri penyebab penyakit *acute hepatopancreatic necrosis disease* (AHPND). Penggunaan antibiotik adalah merupakan salah satu alternatif pengobatan penyakit bakterial udang dan ikan. Penelitian ini dilakukan untuk mengevaluasi sensitivitas dan resistensi *V. parahaemolyticus* yang diisolasi dari udang vaname (*Litopenaeus vannamei*) terhadap tiga jenis antibiotik, yaitu *oxytetracycline*, *enrofloxacin*, dan *erythromycin*. Isolasi bakteri dilakukan dari organ hepatopankreas udang vaname yang berasal dari beberapa tambak di pantai selatan (Yogyakarta–Purworejo) dan pantai utara (Kendal) pulau Jawa. Bakteri hasil isolasi dilakukan karakterisasi yang terdiri dari uji biokimia, pewarnaan Gram, dan molekuler (gen *tlh*). Uji sensitivitas dilakukan dengan metode *disk diffusion* (Kirby–Bauer), sedangkan uji *Minimum Inhibitory Concentration* (MIC) dan *Minimum Bactericidal Concentration* (MBC) dilakukan dengan menggunakan metode *dilution*. Hasil penelitian sensitivitas terhadap 17 isolat *V. parahaemolyticus* menunjukkan bahwa 88,2% sensitif terhadap *oxytetracycline*, 47% sensitif terhadap *enrofloxacin*, dan 100% isolat resisten terhadap *erythromycin*. Nilai MIC *oxytetracycline* terhadap *V. parahaemolyticus* berkisar antara 11,7–375 µg/mL. Sedangkan MIC *enrofloxacin* terhadap *V. parahaemolyticus* berkisar antara 0,9–62,5 µg/mL. Nilai MBC menunjukkan kisaran antara 23,4–750 µg/mL untuk *oxytetracycline* dan 7,8–250 µg/mL untuk *enrofloxacin*. Indeks MAR bernilai rentang 0,33 – 0,66, dengan Kabupaten Purworejo memiliki indeks MAR tertinggi.

Kata kunci: *Litopenaeus vannamei*, *Vibrio parahaemolyticus*, sensitivitas antibiotik, oksitetrasiklin, enrofloksasin, eritromisin

Abstract

RESISTANCE OF *Vibrio parahaemolyticus* ISOLATED FROM WHITELEG SHRIMP (*Litopenaeus vannamei*, Boone 1931) TO OXYTETRACYCLINE, ENROFLOXACIN, AND ERYTHROMYCIN

Vibrio parahaemolyticus is one of the bacterial pathogens responsible for acute hepatopancreatic necrosis disease (AHPND). Antibiotics are considered one of the alternative treatments for bacterial infections in shrimp and fish. This study was conducted to evaluate the sensitivity and resistance of *V. parahaemolyticus* isolated from Pacific whiteleg shrimp (*Litopenaeus vannamei*) against three types of antibiotics: oxytetracycline, enrofloxacin, and erythromycin. Bacterial isolation was performed from the hepatopancreas of *L. vannamei* collected from several shrimp ponds located on the southern coast (Yogyakarta–Purworejo regency) and the northern coast (Kendal regency) of Java Island. The isolated bacteria were characterized using biochemical tests, Gram stain, and molecular identification (the *tlh* gene). Antibiotic sensitivity testing was carried out using the disk diffusion method (Kirby–Bauer), while Minimum Inhibitory Concentration (MIC) and Minimum Bactericidal Concentration (MBC) were determined using the dilution method. Sensitivity test results from 17 isolates of *V. parahaemolyticus* showed that 88.2% were sensitive to oxytetracycline, 47% were sensitive to enrofloxacin, and 100% of the isolates were resistant to erythromycin. The MIC values of oxytetracycline against *V. parahaemolyticus* ranged from 11.7 to 375 µg/mL, while the MIC values of enrofloxacin ranged from 0.9 to 62.5 µg/mL. The MBC values ranged from 23.4 to 750 µg/mL for oxytetracycline and 7.8 to 250 µg/mL for enrofloxacin. The MAR index ranged between 0.33 and 0.66, with Purworejo regency showing the highest.

Keywords: *Litopenaeus vannamei*, *Vibrio parahaemolyticus*, antibiotic sensitivity, resistance, oxytetracycline, enrofloxacin, erythromycin