

## INTISARI

### ISOLASI, IDENTIFIKASI MOLEKULER, DAN DETEKSI GEN VIRULEN BAKTERI *Edwardsiella tarda* YANG DIISOLASI DARI LELE DUMBO (*Clarias sp.*) DI DAERAH ISTIMEWA YOGYAKARTA

Penelitian ini bertujuan untuk mengisolasi, mengidentifikasi serta mendeteksi keberadaan gen virulen (*fimA*, *katB* dan *esrB*) bakteri *Edwardsiella tarda* dari usus lele dumbo (*Clarias sp.*) di Daerah Istimewa Yogyakarta. Bakteri *E. tarda* diisolasi dari usus lele dumbo dan diinokulasikan pada medium SSA dan MCA. Isolat bakteri yang mempunyai koloni dengan morfologi bentuk circular, elevasi convex, tepian entire, opasitas opaque, translucent dengan pigmen bening dan terdapat titik hitam di pusat koloni pada SSA dan pigmen bening pada MCA, selanjutnya dilakukan uji presumtif meliputi uji katalase, oksidase dan pengamatan Gram. Isolat-isolat yang diduga kuat sebagai *E. tarda* dilanjutkan amplifikasi dengan primer spesifik (*etfD-F etfD-R*). Isolat bakteri *E. tarda* yang diperoleh selanjutnya diamplifikasi gen virulennya meliputi gen *fimA*, *katB*, dan *esrB*. Penelitian ini berhasil mendapatkan sebanyak 18 isolat bakteri *E. tarda* dari 17 ekor lele dumbo di Daerah Istimewa Yogyakarta. Hasil penelitian menunjukkan terdapat 5 isolat yang mempunyai gen *fimA*, 4 isolat mempunyai gen *katB* dan 4 isolat mempunyai gen *esrB*, namun hanya terdapat satu isolat yang terdeteksi mempunyai ketiga gen virulen tersebut.

Kata kunci: Daerah Istimewa Yogyakarta, *Edwardsiella tarda*, gen virulen, lele dumbo

## ABSTRACT

### ISOLATION, MOLECULAR IDENTIFICATION, AND DETECTION OF VIRULENCE GENES AMONG *Edwardsiella tarda* BACTERIA ISOLATED FROM CATFISH (*Clarias sp.*) IN SPECIAL REGION OF YOGYAKARTA

The aim of the present study was to isolate, identify, and detect the virulence genes of *Edwardsiella tarda* bacteria (*fimA*, *katB*, and *esrB*) isolated from the intestinal tract of catfish (*Clarias sp.*) from several catfish farms in Special Region of Yogyakarta. The bacteria were isolated from catfish and inoculated on both SSA and MCA media. Bacterial isolates that had colonies with circular morphology, convex elevation, entire margin, opaque opacity, translucent with clear pigment and a black dot in the centre of the colony on SSA and clear pigment on MCA were then carried out by presumptive tests including catalase, oxidase and Gram's observation. The isolates strongly suspected of being *E. tarda* were amplified using specific primers (*etfD-F etfD-R*). *E. tarda* isolates were then amplified with three virulence gene primers (*fimA*, *katB* and *esrB*). In this study, 18 isolates of *E. tarda* bacteria were obtained from 17 catfish in SR Yogyakarta. The results showed that there were 5 isolates that had the *fimA* gene, 4 isolates had the *katB* gene, and 4 isolates had the *esrB* gene, but only one isolate was detected to have the three virulence genes.

Keywords: catfish, *Edwardsiella tarda*, Special Region of Yogyakarta, virulence genes