

**POTENSI ANTI *QUORUM SENSING* DARI EKSTRAK KASAR SUPERNATAN  
BAKTERI ENDOFIT *Ageratum conyzoides***

**ABSTRAK**

Telah dilakukan penelitian mengenai ekstrak kasar supernatan bakteri endofit dari akar *A. conyzoides* sebagai anti *quorum sensing*. *Quorum sensing* adalah mekanisme komunikasi antarsel bakteri yang dapat mengatur fungsi fisiologi seperti biofilm, faktor virulensi dan persebaran bakteri. Tiga isolat bakteri endofit *Ageratum conyzoides* telah berhasil diisolasi yaitu *Pseudomonas*, *Brochothrix*, dan *Kurthia*. Penelitian ini bertujuan mengetahui potensi ekstrak kasar supernatan bakteri endofit *A.conyzoides* sebagai anti *quorum sensing*. Tiga isolat bakteri endofit dikultur dalam medium King's B hingga mencapai fase stasioner. Kultur bakteri ini selanjutnya diekstraksi menggunakan etil asetat. Ekstrak kasar supernatan bakteri endofit *A.conyzoides* yang diperoleh kemudian diujikan aktivitas anti *quorum sensing* menggunakan bakteri *Chromobacterium violaceum* CV026. Konsentrasi ekstrak kasar supernatan bakteri endofit yang diberikan adalah 2.5 mg ml<sup>-1</sup>, 3 mg ml<sup>-1</sup>, dan 3.5 mg ml<sup>-1</sup>. Hasil penelitian menunjukkan ketiga ekstrak kasar supernatan bakteri endofit *A.conyzoides* berpengaruh terhadap pengurangan produksi violacein. Ekstrak yang paling tinggi menunjukkan potensi anti *quorum sensing* adalah ekstrak kasar supernatan bakteri *Kurthia* (I14) pada konsentrasi 3.5 mg ml<sup>-1</sup>. Hal tersebut mengindikasikan bahwa ekstrak kasar supernatan *A.conyzoides* memiliki kemampuan sebagai anti *quorum sensing*. Aktivitas anti *quorum sensing* bergantung pada konsentrasi ekstrak kasar supernatan bakteri endofit *A. conyzoides* yang diberikan pada kultur *C.violaceum* CV026.

**Kata kunci:** Bakteri endofit; *Ageratum conyzoides*; Anti *quorum sensing*; *Chromobacterium violaceum* CV026.

**POTENTIAL ANTI QUORUM SENSING FROM CRUDE EXTRACT OF  
*Ageratum conyzoides* ENDOPHYTIC BACTERIA**

**ABSTRACT**

The research of potential anti quorum sensing by crude extract of *Ageratum conyzoides* endophytic bacteria was conducted. Quorum sensing is cell-to-cell communication in bacteria that enable to regulate bacterial physiological function such as biofilm, virulence, and swarming. There are three endophytic bacteria of *A. conyzoides* have been isolated. There are *Pseudomonas*, *Brochothrix* and *Kurthia*. The purpose of this research was to know potency of anti quorum sensing activity from crude extract of *A. conyzoides* endophytic bacteria. Three isolates of *A. conyzoides* endophytic bacteria were inoculated in King's B medium until stationary phase. Furthermore, these bacteria were extracted using etyl acetat. The crude extract of *A. conyzoides* endophytic bacteria as anti quorum sensing was monitored using *Chromobacterim violaceum* CV026. The concentration of crude extract of *A. conyzoides* endophytic bacteria that used in this research were 2.5 mg ml<sup>-1</sup>, 3 mg ml<sup>-1</sup>, and 3.5 mg ml<sup>-1</sup>. The result shown that three crude extracts of *A. conyzoides* endophytic bacteria can reduce violacein production. The most potential extract that have anti quorum sensing activity is *Kurthia* at concentration 3.5 mg ml<sup>-1</sup>. It was indicating quorum sensing inhibition by crude extract *A. conyzoides* endophytic bacteria. Anti quorum sensing activity was depend on concentration of crude extract *A. conyzoides* endophytic bacteria that used in *C.violaceum* CV026 culture.

**Keywords:** Endophytic bacteria; *Ageratum conyzoides*; Anti quorum sensing; *Chromobacterium violaceum* CV026.