

ABSTRACT

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BAKTERI *Bacillus* sp. DAN *Staphylococcus* sp. PENGHASIL EKSOPOLISAKARIDA (EPS) YANG DI ISOLASI DARI PENCERNAAN BABI

(xiii + 67 pages : 25 figures : 11 tabels : 11 appendixes)

Exopolysaccharide has a wide applications in various area of industry. In pharmaceutical industries, exopolysaccharide has the power of bioactivity that can be used in the used of a drug with their function as anti-virus and anti-inflammatory, and as a stabilizer, a thickener, and an emulgator in industrial food. Exopolysaccharide-producing bacteria derived from local sources is not widely researched. Therefore, the discovery of exopolysaccharide-producing bacteria isolated from pigs digestion is needed. Identification of bacteria carried by Gram, endospores, and nigrosine staining. After that, catalase activity, CO₂ gas production, the production of acid, and α-amylase activity are performed. Moreover, exopolysaccharide ability in coagulation, protein weight measurements, and sequencing of PCR products also performed. Based on the result of morphological identification, D17, D22, E3, E8, and G17 is a Gram positive, positive endospores on D17, E8, G17, with bacillus form on D17, E8, G17, and cocci form on D22, E3. D17 has the longest size, 9,21 μm. Based on the result of biochemical identification, D17, E8, G17, D22 and E3 have a positive catalase activity. Gas production test showed negative results with a pH between 3,75 to 5,49, and the activity of α-amylase is high in D17 and E8. Based on the result of coagulation test, D17 and E8 performed better coagulation with high number of protein weight (D17: 117,8 mg; E8: 114,3 mg). Based on the result of sequencing test with 16S rRNA, D17, E8, and G17 is a *Bacillus* sp., D22 and E3 is a *Staphylococcus* sp. The result of this research showed that there are three strains from five isolate were used. All five isolates have the potential and unique exopolysaccharide.

References : 34 (2001 - 2012)

Keywords : Exopolysaccharide