

## **Potensi Bekasam Bandeng (*Chanos chanos*) sebagai Sumber Angiotensin I Converting Enzyme Inhibitor**

### **The Potency of Milkfish (*Chanos chanos*) Bekasam As Source of Angiotensin I Converting Enzyme Inhibitor**

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#### **Abstract**

Bekasam is a fermented fish product. Bekasam was perceived to has an ACE- inhibitory activity due to the bioactive peptide from degradation product of fish protein by endogenous-proteolytic enzymes or from the proteolytic activity of lactic acid bacteria. The changes of the population of lactic acid bacteria, pH, total acid, soluble proteins and the ACE- inhibitory activity during the bekasam fermentation were studied. The population of lactic acid bacteria increased from 5,16 to 8,15 log CFU/g, followed by decreasing of pH from the initial value (6,15) at raw milkfish to 4,41 after 9 days of fermentation and it was followed by the increasing of the total acid. Bekasam showed an antihypertensive activity of 51.77% at 6 days of fermentation and it was not showed an ACE- inhibitory activity for the next days of fermentation. There were a correlation between the increasing of soluble protein and the ACE- inhibitory activity during the bekasam fermentation.

**Key words:** Bekasam, fermented fish, lactic acid bacteria, soluble Protein, ACE- inhibitory activity

#### **Abstrak**

Bekasam adalah produk fermentasi ikan. Bekasam diduga mempunyai aktivitas *Angiotensin I Converting Enzyme* (ACE) inhibitor, yang disebabkan oleh terbentuknya peptida ACE inhibitor hasil aktivitas proteolitik enzim endogenous ikan dan bakteri asam laktat. Penelitian ini bertujuan mengetahui perubahan populasi bakteri asam laktat, pH, total asam, perubahan protein terlarut dan besarnya aktivitas ACE inhibitor selama proses fermentasi bekasam. Jumlah populasi bakteri laktat meningkat dari 5,16 menjadi 8,15 log CFU/g, nilai pH menurun dari 6,5 menjadi 4,41 disertai dengan peningkatan total asam. Bekasam bandeng menunjukkan aktivitas antihipertensi sebesar 51,77% yang terbentuk pada hari ke 6, dan tidak menunjukkan aktivitas penghambatan pada proses fermentasi selanjutnya. Besarnya aktivitas ACE inhibitor berkorelasi dengan terjadinya kenaikan protein terlarut selama proses fermentasi bekasam.

**Kata kunci:** Bekasam, fermentasi ikan, bakteri asam laktat, protein terlarut, aktivitas ACE inhibitor