Identification and Molecular Interaction Mechanism Angiotensin Converting Enzyme Inhibitory Peptide from *Bakasang* (Fermented Skipjack Tuna (*Katsuwonus pelamis*))

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Abstract : *Bakasang* is fermented fish product which can inhibit ACE (Angiotensin Converting Enzyme). Therefore, this study aims to purify and identify the molecular interaction mechanism of bioactive peptides from *bakasang* as ACE inhibitors. *Bakasang*'s peptide was isolated. Crude and purified isolates were analyzed its profile by SDS-PAGE. The crude was purified using GFC and identified by LC-MS. Peptides then cleaved by proteinase K using peptide cutter, modeled using PyMol and docked with ACE using HADDOCK Server. Ligplot and Discovery studio 2016 used for analyzing molecular interaction and all visualization was done using Chimera v.1.8. Bioactive peptides in *bakasang* have a molecular weight in between 13 – 43 kDa. From 7 fragmented peptides, there is AQK fragment that has a great potential as ACE inhibitor. That peptide interacted with ACE through hydrophobic and hydrogen interaction on its active site. The conclusion from this study is *Bakasang* has a potential bioactive peptide as ACE inhibitor potential in its bioactive peptide from the fermentation process.
Keywords : ACE inhibitor, *bakasang*, bioactive peptide, molecular docking.

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