

Isolation of Angiotensin I Converting Enzyme (ACE) Inhibitor from the Sauce of Fermented oyster, *Crassostrea gigas*

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ABSTRACT

Angiotensin I converting enzyme (ACE: peptidyl dipeptide hydrolase EC 3.4.15.1) is an exopeptidase that cleaves dipeptides from the C-terminal ends of various peptide substrates and regulates the activity of several endogenous bioactive peptides. Two basic reactions, conversion of inactive decapeptide angiotensin I to the potent vasoconstrictor octapeptide angiotensin II and inactivation of the vasodepressor nonapeptide bradykinin catalysed by ACE, play important physiological roles in regulating blood pressure. In present study, we isolated and purified an angiotensin I converting enzyme inhibitor from fermented oyster. The oyster was fermented with 25% NaCl (w/w) at 20°C for 6 months. The fermented mixture was passed through 40-mesh sieve, desalted using Micro Acilyzer and then lyophilized. ACE inhibitory activity of fermented oyster sauce was investigated, IC₅₀ value was 1.82 mg/ml. ACE inhibitor was purified from fermented oyster sauce using SP-Sephadex C-25 ion exchange chromatography, Sephadex G-50 gel chromatography and reverse-phase HPLC on C18 column. Finally, N-terminal amino acid sequence was determined.