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## Angiotensin-I converting enzyme inhibitory peptides from antihypertensive skate (*Okamejei* kenojei) skin gelatin hydrolysate in spontaneously hypertensive rats

Kyong-Hwa Kang

Pukyong National University, Republic of Korea

The aim of this study was to investigate antihypertensive effect of bioactive peptides from skate (*Okamejei kenojei*) skin gelatin. The alcalase/protease gelatin hydrolysate below 1 kDa (SAP) exhibited the highest Angiotensin-I Converting Enzyme (ACE) inhibition compared to other hydrolysates. SAP can decrease systolic blood pressure significantly in spontaneously hypertensive rats. SAP inhibited vasoconstriction via PPAR-c expression, activation and phosphorylation of eNOS in lungs. Moreover, the expression levels of endothelin-1, RhoA, a-smooth muscle actin, cleaved caspase 3 and MAPK were decreased by SAP in lungs. Vascularity, muscularization and cellular proliferation in lungs were detected by immunohistochemical staining. Finally, two purified peptides (LGPLGHQ, 720 Da and MVGSAPGVL, 829 Da) showed potent ACE inhibition with  $IC_{50}$  values of 4.22 and 3.09 lM, respectively. These results indicate that bioactive peptides isolated from skate skin gelatin may serve as candidates against hypertension and could be used as functional food ingredients.

## **Biography**

Kyong-Hwa Kang holds a PhD and is presently working as a Research Professor at Department of Marine Bio Convergence Science and Marine Bioprocess Research Center (MBPRC) at Pukyong National University, Busan, Republic of Korea. She received her PhD from Pukyong National University in 2011, and conducted her Postdoctoral studies at the same Laboratory. Her major research interests are investigation and isolation of protein and peptides from mainly marine microalgae and other marine sources.

jbhluck@kist.re.kr

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