



Preparation of Silkworm Pupa Peptides and its Antihypertensive Activity in Spontaneously Hypertensive Rats

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SUMMARY. The aims of this study were to prepare the silkworm pupa peptides that could inhibit the angiotensin I converting enzyme (ACE) and evaluate the effects of the peptides on hypertension in spontaneously hypertensive rats (SHR). The skim pupa powder was dealt with enzymatic hydrolysis and purification. The components within the range of 1000 to 5000 Da were collected for the animal tests. In order to study the effect of peptides *in vivo*, SHR were used as model animal compared to Sprague Dawley (SD) rats for short-term administration test and long-term administration tests. The way of giving drug was irrigation. Captopril was used as drug control. Changes of blood pressure of SHR and SD rats were determined in tail artery. The blood pressure of SHR lowered with the dose of peptide (400 mg/kg bw) and the effect lasted for 6 h after the administration. The blood pressure values were significantly at lower level ($p < 0.05$), while normal rats showed no difference on blood pressure. After long-term administration test, the pupa peptides showed no side effects on the weight of rats. At the same time, it significantly lowered the blood pressure of SHR. So pupa peptides has a good lowering effect on blood pressure in SHR and no effect in normal rats.

KEY WORDS: Silkworm pupa, Peptide, Antihypertensive activity.

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