

생물전환 한약재의 항고혈압 효능 검색

제주대학교 수의과대학 : 김성관, 김동건, 현주미, 한창훈, 이영재*
한국한의학연구원 : 마진열

Anti-hypertensive Effects of Biotransformed Korean Herbal Medicines

¹College of Veterinary Medicine, Jeju National University

Seong Kwan Kim¹, Dong Geon Kim¹, Ju Mi Hyun¹, Chang Hoon Han¹ and Young Jae Lee^{1*}

²Korea Institute of Oriental Medicine : Jin Yeul Ma²

실험목적 (Objectives)

Traditional herbal medicines have been used for the treatment of diseases in Korea. Some of herbal medicines, such as *Sipjeondaebotang* (SJ), *Hwangryeonhaedoktang* (HR), *Insampaedoksan* (IS) and *Oyaksunkisan* (OY) are medicated for the therapy of hypertension. In this study, we observed the anti-hypertensive effects of biotransformed SJ, HR, IS and OY. The hypothesis of this study is that the anti-hypertensive effects of SJ, HR, IS and OY might be improved through the biotransformation.

재료 및 방법 (Materials and Methods)

○실험재료

SJ, HR, IS and OY were supplied from Korea Institute of Oriental Medicine. Biotransformations were performed by fermentation using *Lactobacillus sp.* and *Bifidobacterium sp.*

○실험방법

Vascular reactivity of biotransformed SJ, HR, IS and OY was examined using descending thoracic aorta isolated from Sprague Dawley rat. The aortic rings were submerged in organ baths containing oxygenated kreb's solution, and isometric contractile force was recorded using a physiograph recorder.

Angiotensin converting enzyme (ACE) inhibiting effects of SJ, HR, IS and OY was measured using ACE kit.

Direct blood pressure was measured in Sprague dawley (SD) rat treated IS166 through tail vein. SD rat was anesthetized with zolietil 50 (100mg/kg), and polyethylene catheter containing 50 IU heparin in sterile 0.9% saline was inserted into the right carotid artery.

주저자 연락처 (Corresponding author) : 이영재 E-mail : yjlee3@jejunu.ac.kr el : 064-754-3371

실험결과 (Results)

In general, biotransformed products showed higher inhibitory effect on ACE inhibitory activity. Vasodilatation effects were improved in some biotransformed OY (OY744) and IS (IS166, IS744, IS748) compared to their natural herbs. In particular, IS166 fermented by using 166 strain showed higher vasorelaxation effects than original IS in dose dependent manner. IS166 decreases arterial blood pressure in Spontaneously Hypertensive Rats. Overall results suggest that herbal medicines, IS166 might have improved anti-hypertensive effect compared to natural herbal medicines through chemical modification of metabolites during the biotransformation.

*시험성적 (표 또는 그림으로 별장으로 작성할 것)

