

생물전환 귀비탕의 항고혈압 효능 검색

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Anti-hypertensive Effects of Biotransformed Gwibi-tangs

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실험목적 (Objectives)

Herbal medicines have been used for the treatment of various diseases in Asian countries. One of these medicines, Gwibi-tang (GBT), is well known for its effect of treating cardiovascular disease. In this study, biotransformed GBTs were produced by the fermentation of GBTs using a series of *Lactobacillus sp.* to observe improved biological activity of GBT by biotransformation. Our hypothesis that some metabolites in biotransformed GBT might improve anti-hypertensive effect through the chemical modification during the fermentation.

재료 및 방법 (Materials and Methods)

○실험재료

GBT and its biotransformed products produced by using a series of *Lactobacillus sp.* are supplied from Korea Institute of Oriental Medicine.

○실험방법

Anti-hypertensive effects of biotransformed GBT were observed by measuring angiotensin II converting enzyme (ACE) inhibitory activity. To evaluate the vasorelaxation effects and their mechanisms on isolated descending thoracic aortas, systolic blood pressure was measured in conscious rats by tail cuff plethysmography (direct blood pressure) in SHR.

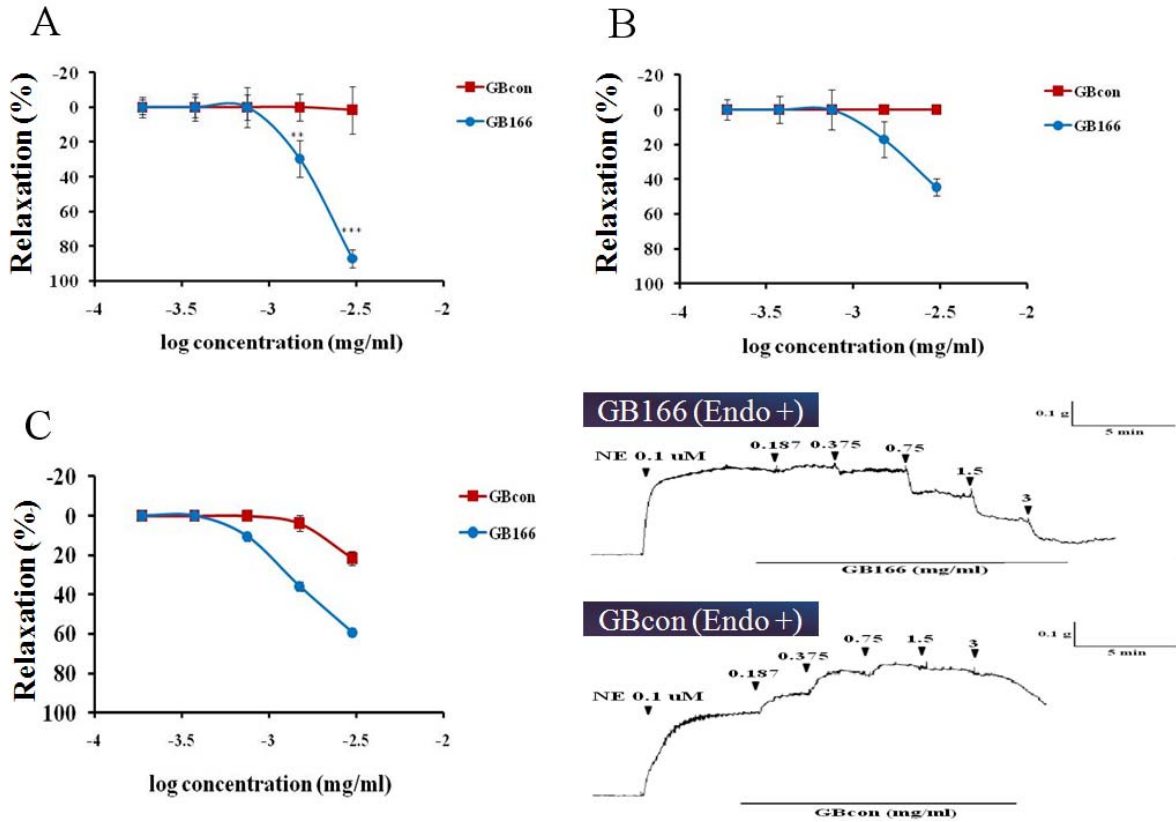
실험결과 (Results)

In general, biotransformed GBTs showed higher inhibitory effect on ACE activity than natural GBT. Among them, GB166 (fermented by *Lactobacillus curvatus* strain 166) showed highest endothelial-dependent vasodilation effect. Nitric oxide synthase (NOS) inhibition abolished GB166 mediated vasorelaxation in aorta. In endothelial cells (EA.hy 926cell), NO synthesis was increased and eNOS phosphorylation (Ser 1177) was upregulated when the cells were cultured with GB166. The results suggest that GB166 have improved anti-hypertensive effect by chemical modification of natural compounds during biotransformation.

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시험성적



Endothelial-dependent vasorelaxation by GB166. Rat thoracic aortics prepared with endothelium (A), without endothelium (B) and with endothelium plus L-LAME (100 uM) preincubation (C) were observed. Sample concentration ranging from 0.187 mg/ml to 3 mg/ml.