Results: The following results were found: In both ReHo and ALFF, the significant foci of the left and the right middle frontal gyrus, the left medial frontal gyrus, the left superior frontal gyrus, and the right posterior cingulate cortex, which are known to be a default mode network, showed increased connectivity. In addition, in ReHo, but not in ALFF, brain-activation changes in the insula, anterior cingulate cortex, and the thalamus, which are associated with acupuncture pain modulation, were found.

Conclusions: In this study, results obtained by using ReHo and ALFF show that acupuncture can modulate the post-stimulus resting state and that ReHo, but not ALFF, can also be used to detect the neural changes that are induced by acupuncture stimulations. Although more future studies with ReHo and ALFF will be needed before any firm conclusions can be drawn, our study shows that particularly ReHo may be an interesting method for future clinical neuroimaging studies on acupuncture.

Keywords: fMRI, regional homogeneity, amplitude of low-frequency fluctuation, acupuncture, rest, post effect
rats. The fraction also significantly (P < 0.001) lowered the atherogenic index (AI) and coronary risk index (CAI) in a dose-dependent manner.

**Conclusion:** The present study demonstrated that the ethyl-acetate fraction of Stereospermum suaveolens exhibits a potent antihyperlipidemic activity in hyperglycemic rats and suggests that the plant may have therapeutic value in treating the diabetic complication of hyperlipidemia.

**Keywords:** antihyperlipidemic, atherogenic index, coronary risk index, Stereospermum suaveolens, ethyl acetate fraction, STZ-diabetic rats

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**Differential Expression of Gene Profiles in MRGX-treated Lung Cancer**

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**Abstract**

**Objectives:** Modified regular ginseng extract (MRGX) has stronger anti-cancer activity-possessing gensenoside profiles.

**Methods:** To investigate changes in gene expression in the MRGX-treated lung cancer cells (A549), we examined genomic data with cDNA microarray results. After completing the gene-ontology-based analysis, we grouped the genes into up-and down-regulated profiles and into ontology-related regulated genes and proteins through their interaction network.

**Results:** One hundred nine proteins that were up- and down-regulated by MRGX were queried by using IPA. IL8, MMP7 and PLAUR and were found to play a major role in the anti-cancer activity in MRGX-treated lung cancer cells. These results were validated using a Western blot analysis and a semi-quantitative reverse transcription-polymerase chain reaction (RT-PCR) analysis.

**Conclusions:** Most MRGX-responsive genes are up-regulated transiently in A549 cells, but down-regulated in a sustained manner in lung cancer cells.

**Keywords:** gene ontology, lung cancer, microarray, modified regular ginseng extract (MRGX)

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**Buxus Microphylla var. Koreana Nakai Extract for the Treatment of Gastric Cancer**

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**Abstract**

**Objectives:** Buxus Microphylla var. Koreana Nakai Extract (BMKNE) is used as a folk remedy for malaria and veneral disease. In the present study, we investigated the effects of BMKNE in the growth and the survival of AGS cells, the most common human gastric adenocarcinoma cell lines.

**Methods:** The AGS cells were treated with varying concentrations of BMKNE. Analyses of the sub G1 peak, the caspase-3 and -9 activities, and the mitochondrial depolarization were conducted to determine whether AGS cell death occurred by apoptosis. Also, to identify the role of transient receptor potential melastatin (TRPM) 7 channels in AGS cell growth and survival, we used human embryonic kidney (HEK) 293 cells overexpressed with TRPM7 channels.

**Results:** Experimental results showed that the sub G1 peak, the caspase-3 and -9 activities, and the mitochondrial depolarization were increased. Therefore, BMKNE was found to induce the apoptosis of these cells, and this apoptosis was inhibited by SB203580 (a p38 mitogen-activated protein kinase (MAPK) inhibitor), and by a c-jun NH2-terminal kinase (JNK) II inhibitor. Furthermore, BMKNE inhibited TRPM7 currents and TRPM7 channel over-expressions in HEK 293 cells, exacerbating BMKNE-induced cell death.

**Conclusion:** These findings indicate that BMKNE inhibits the growth and the survival of gastric cancer cells due to a blockade of the TRPM7 channel’s activity and MAPK signaling. Therefore, BMKNE is a potential drug for treatment of gastric cancer, and both the TRPM7 channel and MAPK signaling may play an important role in survival in gastric cancer cells.

**Keywords:** AGS cells, apoptosis, Buxus Microphylla var. Koreana Nakai, gastric cancer, mitogen-activated protein kinase (MAPK) inhibitor, transient receptor potential melastatin 7 (TRPM7) channel

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