

P59

Screening for the Anti-diabetic Activity of *Acanthopanax senticosus*Kyun Ha Kim, JiaLe Song, Sang Geun Roh, Andre Kim¹ and Won Chul Choi**Department of Biology, Pusan National University, Busan 609-735*¹*Department of Chemistry and Chemistry Institute for Functional Materials, Busan 609-735*

Diabetes mellitus has become a serious chronic metabolic disorder characterized by a decrease or cessation in the insulin secretion. *Acanthopanax senticosus* have been used as the traditional medicine in Asia. However, its action in an islet of Langerhans have no been established yet. Three different extract components (EtOAc, BuOH and H₂O) after the water extraction of *Acanthopanax senticosus* extracts. The whole water extract were examined for anti-diabetic activity by measuring insulin secretion in HIT-T15 cells and glucagon secretion in α TC1 clone 9 cells. The HIT-T15 and α TC1 clone 9 cells were incubated with various concentrations of the extracts. The whole water extraction and water fraction treated HIT-T15 cells showed greater insulin secretion than the controls. Glucagon secretion was also inhibited in the α TC1 clone 9 cells treated with the water extraction and ethyl acetate (EtOAc) fraction dose. There were no morphological changes in the cells incubated with all fraction and water extracts. Also fluorescence micro-scope result showed that apoptotic cells were recovery by all extractions in HIT-T15 cells. The results show a possibility for *Acanthopanax senticosus* to be used as a new material for functional food stuff.

Key words: *Acanthopanax senticosus*, plant extraction, diabetes

P60

Sphingomonas sp. as a Potential Initial Groups in the Development of Biofilm in Drinking Water

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To figure out the initial group in the development of biofilms in high chlorine residual (1.0 mg/l) drinking water, 16S rDNA V3 targeted PCR-DGGE was applied. Bacterial concentration was reached 10³ CFU/cm² or more on the surface of stainless steel, PVC, and galvanized iron within a week. Uncultured proteobacteria- and Bacillales group-like sequences were detected in some season and *Sphingomonas*-like sequences were identified regardless of season and the type of pipe materials. Hence *Sphingomonas* species may be the potential initial group in the development of biofilm in drinking water and this results would be useful for the figure out the biofilm formation and safety of drinking tap water.

Key words: Biofilm, drinking water, PCR-DGGE, *Sphingomonas*