

Immunoregulatory Effect of *Scutellaria baicalensis* Georgi in Diabetes-induced Rats by Streptozotocin

College of Biomedical & Health Science,
Department of Life Science, Konkuk University
Hai Lan Jin, Chi Sun An, Yoon Hee Jeon, Beong Ou Lim*

Objectives

Diabetes is chronic auto immune disease with a strong inflammatory component. The use of additional medical plants by patients with chronic medical illness like diabetes is on increase. in addition many herbal medicines have been recommended for the treatment of diabetes. The root extract of *Scutellaria baicalensis* Georgi (SB) is a traditional herbal medicine. It is widely used to treat bacterial infection of the respiratory system and gastrointestinal tract. It can also be used to suppress inflammatory diseases. Thus, we investigated the immunoregulatory.

Materials and Methods

○ Materials

The roots of *Scutellaria baicalensis* 100g were extracted with 2L distilled water for 2h at 85°C in a reflux apparatus. After reflux, the samples were evaporated using a rotary evaporator and lyophilized. Then the extract was stored at -20°C until used. Sprague-Dawley(SD) rats were separated into four groups--control group, streptozotocin(STZ) group, SB group, STZ+SB group.

○ Methods

Diabetes was induced by injected into intra-peritoneal with streptozotocin 60mg/kg. The extracts treatment was performed orally from 4 weeks. After four weeks, mouse was anesthetized, and spleen was excised, rinsed and immediately frozen. Measurements of IgE and IgA were executed using sandwich ELISA methods. The cellular tissue analysis the TNF- α , and IFN- γ , STAT1, 6 production by western blot.

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Corresponding author : 임병우 E-mail : beongou@kku.ac.kr Tel : 043-840-3570

Results

The serum IgA and IgE level was decreased in STZ+SB group compared to STZ group. SB extracts treatment of rats bearing STZ-induced diabetes improved inflammatory activity and significantly decreased IFN- γ , and STAT1,6 production. For these reasons, we conclude that SB can alleviate the activity level in STZ-induced Diabetes.

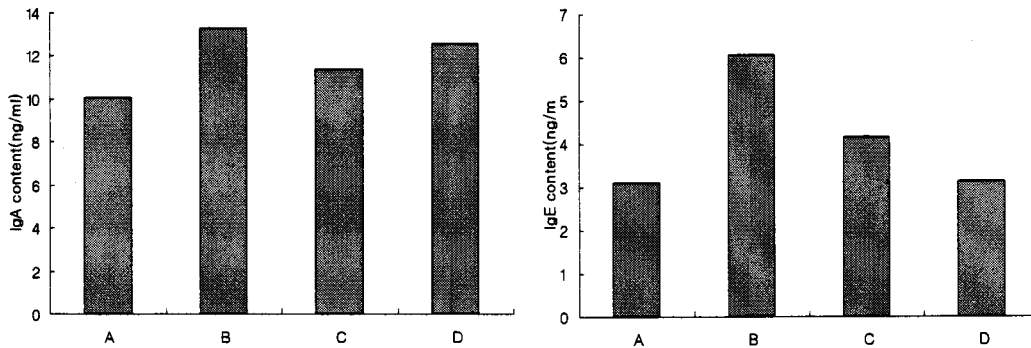


Fig1. Levels of IgA and IgE in serum from control and STZ-induced diabetes rats fed on SB. (A: control B: STZ C: SB D: STZ+SB)



Fig2. Effect of IFN- γ , STAT1, TNF- α and STAT6 protein expression in the spleen from control and STZ-induced diabetes rats fed on SB .

(A: control B: STZ C: SB D: STZ+SB)