F-P-30

# The protective effect of Halal food extract in pancreatic beta cell lines.

Seong-sun Kim1, Yu-Mi Jin1, Young-Jae Song1, AYE-AYE1, 2, Ju-Ryoun Soh1,
Yong-Deok Jeon1, Jong-Sik Jin1

1. Department of Oriental Medicine Resources, Chonbuk National University 79, Gobongro, Iksan, Jeollabuk-do, Republic of Korea
2. Department of Lifestyle Medicine, Chonbuk National University, 79 Gobongro, Iksan, Jeollabuk-do, Republic of Korea

## ABSTRACT

In Islamic dietary guidelines, Halal foods are allowed as edible blessed food. Most foods were categorized within halal for Muslims. The main point of Halal food is that foods are clean in every process and based on Halal standard which might be different in each country.

Most pancreatic β cells synthetize, store, and release insulin. Specific molecular, functional as well as ultrastructural traits of pancreatic β cells could control their insulin secretion properties and survival phentoype. Insulin-secreting pancreatic β -cells are essential regulators of mammalian metabolism. In addition, the pancreatic β cell plays an important role in the pathogenesis of type 1 and type 2 diabetes as improving glucose homeostasis by preserving, expanding and improving the function of this key cell type. However, the pharmacological effect of halal food has not been unclear yet, especially food habit-dependent diabetes.

The aim of the this study was to determine the preventive effect of Iran plants extract (Almond, Garlic, Cumin, Ginkgo biloba, Holy basil, Psyllium, Satureja khuzistanica, Fenugreek, Green tea, Ipomoea betatas, Blueberry) on RINm5F cells and MIN6 cells as pancreatic β cell line. The cytotoxicity of the extracts of Iran plants on RINm5F cells and MIN6 cells were measured by using MTT assays. The preventive effects of Iran plant extracts were measured by WST-8 cell proliferation assay on streptozotocin (STZ)-induced cell death in MIN6 cells.

In presented result showed that all extract of Iran plants (0.01-10mg/ml) did not show cytotoxicity in RINm5F cells and MIN6 cells. Among non-cytotoxic extract, the protective effects could be detect in high dose concentration. These results suggest that the extract of Iran plants may serve as a potential therapy for diabetes.

Key word: Iran plants, pancreatic beta cell line, RINm5F cell, MIN6 cell, diabetes.

본 연구는 중소기업벤처부의 2018년도 첫걸을기술개발사업 (No.S2602633)의 지원을 받아수행한 결과임을 밝힙니다.