Molecular mechanism of insulin resistance

M. Honardoost*  MR. Sarookhani**  E. Arefian***

*Ph.D. Student of Molecular Medicine, Cellular and Molecular Research Center, Qazvin University of Medical Sciences, Qazvin, Iran
**Associate Professor of Biotechnology, Cellular and Molecular Research Center, Qazvin University of Medical Sciences, Qazvin, Iran
***Assistant Professor of Virology, College of Science, University of Tehran, Tehran, Iran

Abstract

Type 2 diabetes is of particular importance as one of the main causes of cardiovascular diseases, renal dysfunction and their related mortality. Two main characteristics of the disease are insulin secretion defects and insulin resistance. It seems that insulin resistance is a key trigger in the pathogenesis of the disease. It is reasonable to think about how to prevent the incidence of type 2 diabetes, reduce its severity and morbidity and to postpone the disease onset by studying the molecular mechanism of insulin resistance in order to inhibit or reduce the driving proteins behind insulin resistance and to find appropriate therapeutic approaches especially based on RNAs regulating gene expression.

This review focuses on recent published molecular findings about occurrence of insulin resistance using genetic databases such as KEGG GENES and OMIM to introduce the trigger mechanism of type 2 diabetes.

Keywords: Insulin Resistance, Type 2 Diabetes Mellitus, Molecular Medicine

Corresponding Address: Mohammad Reza Sarookhani, Department of Laboratory Sciences, School of Paramedical Sciences, Qazvin University of Medical Sciences, Shahid Bahonar Blvd., Qazvin, Iran
Email: mrsarookhani@qums.ac.ir
Tel: +98-28-33336001
Received: 26 Dec 2013
Accepted: 11 May 2014