

Roles of immune cells in adipose tissue in obesity and insulin resistance

Jae Bum Kim

Seoul National University, Korea

Abstract

Adipose tissue plays key roles in whole body energy homeostasis by cooperating with brain, muscle, liver and pancreatic islets. In obesity, adipose tissue dysfunction affects systemic insulin sensitivity and eventually leads to metabolic complications including hyperlipidemia, hypertension, hypercholesterolemia, certain cancers as well as type 2 diabetes. Recent findings have suggested that several stress responses including adipose tissue inflammation, ER stress, oxidative stress and hypoxia are able to induce adipose dysfunction in obesity. Previously, we have demonstrated that in adipose tissue, increased oxidative stress is closely associated with adipose tissue inflammation and insulin resistance. In this presentation, I will discuss immune responses in adipose tissue of obesity as well as insulin resistance.

Biography

Jae B. Kim is a Professor of Biological Sciences, Biophysics and Chemical Biology at the Seoul National University. He received his B.S. and M.S. at Seoul National University in 1990. And he completed his Ph. D. from Harvard University in 1996, where he cloned and characterized ADD1/SREBP1c, a key lipogenic transcription factor, under supervision of Dr. Bruce M. Spiegelman. Then he continued his postdoctoral fellowship with Dr. Phillip Sharp, at MIT. In 2000, he joined the faculty at the Department of Biological Sciences, Seoul National University. He has published more than 90 papers and has been working on fat metabolism and its related metabolic disorders such as obesity and diabetes.