

TITLE

**Development of
functional foods
tailored for type 2
diabetes prevention**

Emmanouil Apostolidis

Framingham State University, Department
of Chemistry and Food Science, Institute of
Food Science, Technology and Nutritional
Biochemistry, MA, 01701, USA

Type 2 diabetes accounts for 90 to 95% of all diagnosed cases of diabetes. According to the CDC, in 2007, 23.7 million people (10% of American adults) in the U.S. had diabetes and by 2050 the number of Americans with diabetes will jump to 33%. Diabetes cost Americans \$174 billion to manage in 2007 - a figure that is expected to skyrocket with the CDC's latest estimates. It is important to recognize that optimal diet-induced prevention of type 2 diabetes onset is critical to reducing the attendant morbidity and cost associated with treatment of diabetes. To this extend, food companies need to develop functional foods specifically tailored for the prevention of type 2 diabetes either by retarding glucose absorption in the GI track or by stimulating glucose absorption in fat and muscle cells via insulin sensitizing effect. In this presentation we will present an outline of the research efforts that need to be performed for the development or definition of such natural products/ingredients/compounds, which include product characterization, in vitro screening, bioavailability studies, "active" compound characterization, animal trials and clinical trials. Finally, suitable strategies will be suggested, to incorporate these ingredients into the food matrix and eventually design functional foods tailored for type 2 diabetes prevention.

Biography

Emmanouil Apostolidis has completed his BSc in Food Science, MSc in Food Microbiology, Ph.D in Food Biotechnology at the University of Massachusetts, and postdoctoral studies at the University of Rhode Island, Food Science and Nutrition Research Center. He is assistant professor at Framingham State University, Chemistry and Food Science Department and he is actively involved in the study of phenolic-antioxidant mediated type 2 diabetes and hypertension management. He is serving as consultant for various food companies and has published more than 25 papers in reputed journals.