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Small peptides as a new group of the functional foods

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As a novel definition of the functional foods: The natural or processed agents that contains known or unknown biologically-active compounds; which, effective non-toxic amounts, provide an advantageous physiological effects for the prevention, management or treatment of chronic disease. Based on novel discovered influences of the di- tri- and tetra peptides as quasi-hormones and nutraceuticals agents can modulate the cells physiological functions and are effective for the promotion of the human health. Bioactive small peptides can be absorbed from the intestine directly into bloodstream via the PepT1 H⁺/peptide co-transporter². After enteric absorption, important organs such as liver, endocrine glands, cardiovascular system and others are exposed to high concentrations of absorbed bioactive small peptides. Recently, we were investigating the effects of mini peptides on the prevention and management of diabetes and hypertension in animal models. All studied miniature peptides were synthesized using a classical glass reaction vessel following the Fmoc Solid-Phase Peptide Synthesis (SPPS) protocol in the pharmaceutical laboratory. Although, it has been shown several aspects of these functional peptides in the mentioned fields of research, such as antioxidant effect, immune modulation, DPP-4 inhibitor, GLP-1 stimulator, and direct stimulators of beta cells signaling to prevent and management of diabetes progression. Also, renin inhibitor, ANP stimulator, angiotensin system modulation, vascular resistance suppression to salt-water balance and blood pressure. Nevertheless, there are still unknown aspects of these pragmatic compounds. Therefore, these unknown multifunctional biomolecules introducing as a novel category of the functional compounds with diverse biological activities for health promoting against chronic diseases development, especially diabetes and hypertension. Based on experimental models, we have produced (*invitro*) and identified (*invivo*) some of these effective peptides that will be introduced.

Keywords: peptide, diabetes, hypertension

Biography

Dr. Tohid Vahdatpour is assistant professor of physiology and post doc. scholar. He has the proficiency of animal modelling of the diabetes and hypertension. He published several scientific papers in the area of animal sciences and veterinary physiology with emphasis on functional foods at this time. His new researches approach is the synthesis of peptides effective on physiological systems with the topic prevention of the diabetes progression in animal models.

Dr. Hadi Valizadeh is Professor of pharmaceutics and world top one percent scientists whom has proficiency of design and production of drug, focusing on drug delivery and peptide production. Mehras Hashemi is DVM student and interested in studying the effects of bioactive peptides.