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## Healthy food for decreasing the risk of age-related disorders

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Age-induced medical disorders are modern problems in medicine and have become a focal point for public health concern due to the aging of the world population. The main barrier for solving this problem is, in the literature available for us, the absence of a reliable, universal biomarker for detection of the functional state of the whole organism though there are different methods for detection of the functional state of individual organs. We believe that metabolic controlling of cell hydration could serve as a universal biomarker for estimation of the effect of different chemical and physical factors, including food and drinking water, on the functional state of the organism. By our previous study it was shown that cell pathology, including aging, leads to the dysfunction of  $\text{Na}^+/\text{K}^+$ -ATPase  $\alpha_3$  isoform-dependent intracellular signaling system controlling cell hydration. Therefore, we suggest that that activation of  $\alpha_3$  isoform-dependent cell hydration could serve as a marker for estimation of bioavailability of food and drinking water. For this purpose, elaboration of a new non-invasive device with corresponding software for detection of muscle hydration based on frequency-dependent characteristics of muscle impedance is suggested. The experimental data that prove our suggestion will be demonstrated in the lecture.

### Biography

Sinerik Ayrapetyan has completed his PhD in Cell Biophysics in the Bogomolets Institute of Physiology (NAS of Ukraine). He is the Coordinator of UNESCO Chair and Head of Research Council of Life Sciences International Postgraduate Educational Center. His current research interest is "Intracellular Signaling System in Norm and Pathology". On this subject, he has published 7 international books and 115 papers. He is a Member of the Board of Associate Editors for the journals: "Electromagnetic Biology and Medicine", "ISRN Biophysics" and a member of editorial board for the journals: "Advances in Life Sciences", "Bioavailability and Bioequivalence", "Applied Pharmacy", "European Journal of Biophysics", "Biochimica et Biophysica Acta", "Journal of International Dental and Medical Research". He is also a Member of International Coordination Council of WHO and number of professional international societies.

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