Spectrophotometric methods in biomedical research

Radana Gurecká
Institute of Medical Physics, Biophysics, Informatics and Telemedicine,
Faculty of Medicine, Comenius University, Bratislava, Slovak Republic

8 November 2022

Abstract

Spectroscopic methods are used to study the matter based on its interaction with electromagnetic radiation. Being relatively simple, non-expensive and versatile, spectrophotometry is widely used in biomedicine for both qualitative and quantitative analysis. It is routinely used to measure the concentration of DNA, RNA, proteins, enzymes, coenzymes, etc. Many of the assays can be performed in microplates, thus using only small volume of often precious samples. Moreover, it enables analysis of tens of samples at once. Spectrophotometric analysis is also utilised in ELISA method (enzyme-linked immunosorbent assay), very sensitive and specific, thanks to antigen-antibody reaction involved.

About the presenter

Radana Gurecká received her MSc degree from Biomedical Physics and her PhD degree in the field of Normal and Pathological Physiology from Institute of Molecular Biomedicine at Comenius University in Bratislava, Slovakia. Her main scientific interests are metabolic syndrome and AGEs—advanced glycation end products. She is a co-author of 24 scientific papers, cited more than 170 times. She works as a teacher at the Institute of Medical Physics, Biophysics, Informatics and Telemedicine, Faculty of Medicine, Comenius University in Bratislava, Slovakia.