



ANALYSIS OF THE IMPACT OF NANOPARTICLE SYSTEMS ON MODEL CELL LINES



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Sciences
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RESEARCH/TECHNOLOGY INTRODUCTION

The field of **nanotechnology** is today one of the fastest growing fields of modern science. Hand in hand with new, diverse applications of nanostructures, such as **nanoparticles (NPs)**, which show **tremendous potential** especially in **biomedicine**, raise questions about their possible negative effects on living organisms.

With the use of cell cultures and instrumentation that our workplace possesses, we are able to relatively simple, cheap and fast analyze cytotoxicity (MTT, ATP, CV tests, etc.) of heterogeneous nanoparticle systems and their potential functionality as vectors (FACS, fluorescence microscopy, confocal microscopy, qRT-PCR, etc.).

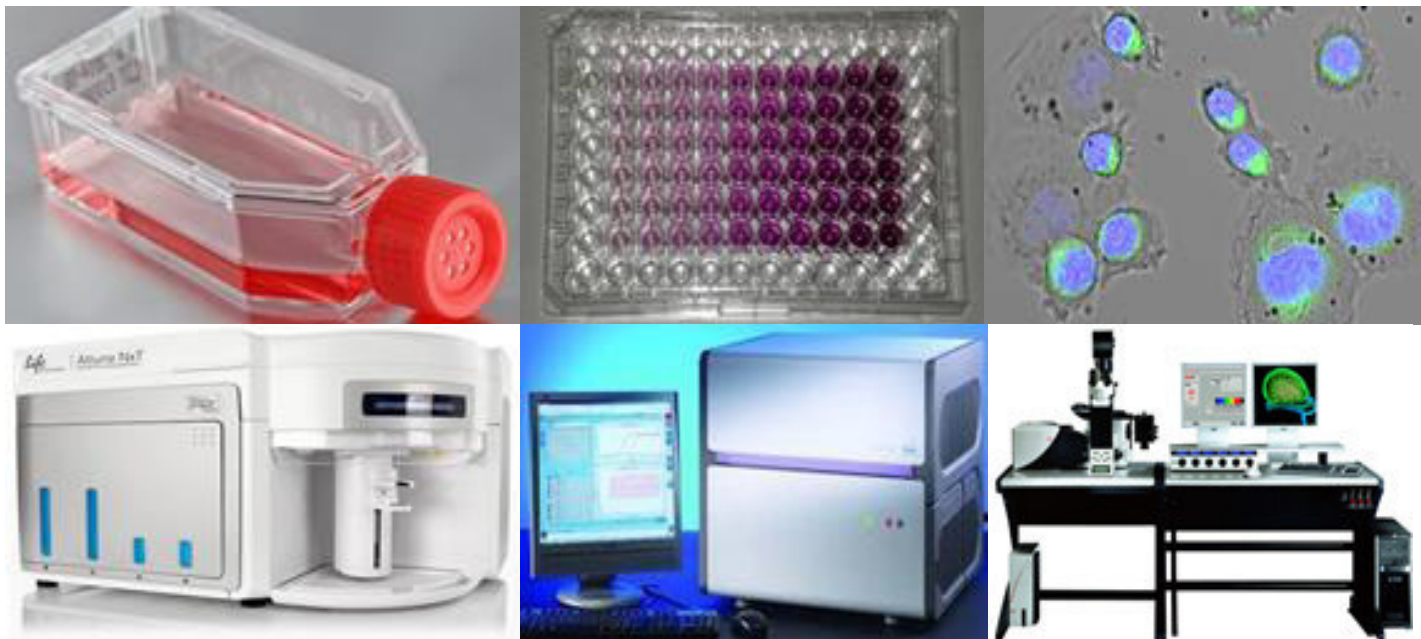
POTENTIAL USERS

The offered analyzes are intended mainly for scientific research institutions, companies and other organizations that connect research, development and production.

ADVANCEMENT OF TECHNOLOGY AND MARKET APPLICATION

In vitro cell cultures are currently one of the **basic techniques** used in **basic and applied research**. The use of these cultures has **many undeniable advantages** compared to other types of biological models. Many cell lines can be **easily cultivated** and in a short period of time it is possible to obtain a relatively **large amount of precisely defined and homogeneous material**, which is difficult to gain with other biological models. The experiment is performed on a single, **well-characterized cell type** and its effects are not affected by interactions with other organs, tissues or cell populations (it is desirable in many cases). Additionally, experiments can be carried out without difficulty on cultivated cells, in which they are destroyed (**without ethical load**).

ADDITIONAL INFORMATION



From left: cell culture; MTT colorimetric test; transfected cells from confocal microscope mikroskopu(Leica); flow cytometr (Attune NxT, Invitrogen); qRT-PCR (LightCycler® 480 System Technology, Roche); f) confocal microscope (TCS SP5 X, Leica)