Full Paper _____ *Thematic Section:* Biochemical Research.
Reference Object Identifier – ROI: jbc-02/17-49-2-152 *Subsection:* Nanotechnology.
Publication is available for discussion in the framework of the on-line Internet conference "*Butlerov readings*".
http://butlerov.com/readings/
Submitted on February 24, 2017.

Some biochemical factors of Panax ginseng C.A. Mey's tissue culture explanted in standard environment or nanotube environment

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Keywords: tissue culture of medicinal herbs, antioxidant fermented activity, biosynthetic activity, carbon nanotube.

Abstract

Nanotechnology is one of the most intensively developing fields of science specifically medicine and pharmacy. Modern technologies can make it possible to work with substances in macro- or nanometric manipulation because this scale is appropriate for the general biological structures namely cells, its organelles and molecules. Functionalized nanotubes may act either as small molecules transporters of different substances or as macromolecular complexes. Nanotechnology application in medicine mainly deals with biologically-active agents delivery, new methods and treatment facilities, diagnostic testing on nanoscale *in vivo*, diagnostic testing *in vitro*, medicinal implants along with molecular machine invention of different constructions and functionality.

All cells, tissue parts of higher plants cultivated outside the plant itself on artificial nutrient medium are considered to be of great interest for plant biotechnology. Growth methods of cell culture, tissue or parts of plants help not just study its physiological or biochemical peculiarities comprehensively but suggest absolutely revolutionary cell-structure technologies for industry, medicine, agriculture. At present time plant cells cultivated in strictly controlled conditions are widely used as models to assess the impact of environmental factors on physiological and biochemical processes along with xenobiotic pharmacological testing.

In this paper you can find the impact assessment of carbon nanotubes on some biochemical processes happened in cultivated cells Panax ginseng C.A. Mey. The degree of basic ferments activity in antioxidant support and biosynthetic ability of cell culture, grown on standard environment, as well as on that one which is modificated with the help of carbon nanotubes, are also given here. Carbon nanotubes can be applied to cell metabolism regulation at antioxidant fermented-scale activity and protein-synthesized activity of plant cells cultivated *in vitro*.

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