Full Paper

Reference Object Identifier – ROI: jbc-02/15-43-8-36SubstitutionThe article is published on materials of the report on "International Scientific ForumSubstitutionButlerov Heritage – 2015". http://foundation.butlerov.com/bh-2015/(English Preprint)Submitted on April 24, 2015.Substitution

The change in the level of lipid peroxidation in cultured cells tissue *Polyscias filicifolia* under the influence of a constant magnetic field

© Margarita A. Strelkova, Nadezhda V. Kirillova,*⁺ and Nadezhda S. Kuzmina

Department of Biochemistry. Saint-Petersburg State Chemical-Pharmaceutical Academy. Prof. Popova St., 14. Saint-Petersburg, 1977376. Russia. Phone: +7 (812) 234-90-33. Φaκc: +7 (812) 234-60-44. E-mail: kirillovanv47@mail.ru, nadezhda.kirillova@pharminnotech.com

*Supervising author; ⁺Corresponding author

Keyword: cell culture, Polyscias filicifolia, constant magnetic field, lipid peroxidation.

Abstract

Changes of the superoxidation of lipids in the cultivated plant cells of Polyscias filicifolia at influence of a weak electromagnetic field are studied. The cultivated cells subjected an effect of a magnetic field within 1, 3, 7 and 9 days (an exponential growth phase) and 12, 16, 19, 25 and 28 days (a stationary growth phase). The intensity of lipid peroxidation was assessed by the level of diene conjugates, conjugated ketatrien, Schiffes bases and malonic dialdehyde. In the exponential growth phase the most the damaging effect on the membranes is shown on 7-9 days of exposition At the end of cultivation (28-30 days of grows) the normalization of lipid peroxidation is shown that indicating on the formation in cultured cells of a resistance to the effects of the magnetic field.