Today, biotechnology is one of the most dynamically growing areas of science and technology. Potential benefits from its use can be found in the following fields: healthcare, development of new materials and alternative fuels, agriculture, food industry, environmental protection, etc.

Biotechnology is one of the leading trends in the 21st century due to its wide scope of application and huge space for further development. It is safe to say that conducting research & development (R&D) in the field of biotechnology, providing financial support to biotech companies and ensuring public access to their products are key tasks for any country in the world.

At the moment, the Russian Federation is not among the world leaders in the biotechnology market, but this situation may change in the future. Biopharmaceutics is considered one of the most developed biotechnological industries in our country, the most promising areas are bioenergy, industrial, food and environmental biotechnology [2]. In this article the main trends in the development of the biotechnology market in Russia and in the world are examined.

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A NEMATODE AS A MODEL TO INVESTIGATE ALZHEIMER'S AND PARKINSON'S DISEASES: POTENTIALOF *C. ELEGANS* UNLOCKED?*

Keywords: C. elegans, Parkinson's disease, Alzheimer's disease, neurodegenerative disorder, nematode model.

C. elegans is one of the best and most preferred model system to study Neurodegenerative Disorders (ND) like Alzheimer's disease (AD) and Parkinson's

disease (PD) [1]. To this day, the underlying mechanism of neurodegenerative disorders are not well understood. It is necessary to obtain knowledge regarding the fundamental mechanisms and causes behind specific neuronal deaths [1–3]. The present study focuses on conducting a systematic review of literature on the application of C. elegans as a model to investigate different neurodegenerative diseases and to note the recent findings regarding the underlying pathogenesis of Alzheimer's disease (AD) and Parkinson's disease (PD). Using C. elegans, a parasite as a model system to study ND demands the combination of different domains and expertise of Neuroscience, molecular science and Nematology [5, 6]. So, it involves multidisciplinary approach which focuses on solving the issues for society (old population suffering from ND).

A search was conducted in PubMed and Scopus for the articles published from December 1993 up to January 2019 using the keywords such as C. elegans, model system, Alzheimer models, Parkinson models, nematode models and neurodegenerative disease models. 110 documents in Scopus and 42 documents in PubMed were found to be relevant to this study. The articles were screened based on the title, abstract and full text.

Ultimately, the outcome of this review suggests that the C. elegans is one of the most preferred model for the investigation of several neurodegenerative diseases due to its high efficiency. As a result, finding novel therapeutics for treating these devastating diseases may soon become a reality and may lead to its eventual eradication in near future [7, 8].

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