

БЪЛГАРСКА АКАДЕМИЯ НА НАУКИТЕ
И-Т ПО ЕКСПЕРИМЕНТАЛНА МОРФОЛОГИЯ,
ПАТОЛОГИЯ И АНТРОПОЛОГИЯ С МУЗЕЙ

Вх. №: 267
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СОФИЯ

To the Chairman of the Scientific Jury
appointed by order № RD-09-48 / 27.07.2021
of the Director of IEMPAM at BAS
Sofia

ATTITUDE

From Prof. Hristo Miladinov Najdenski, DSc. Corresponding Member of BAS, from the Stephan Angeloff Institute of Microbiology at the Bulgarian Academy of Sciences (BAS)

Subject: evaluation of the scientific production of Chief Assist. Prof. Ani Krasimirova Georgieva, PhD from the Department of Pathology at the Institute of Experimental Morphology, Pathology and Anthropology with a Museum (IEMPAM) at the BAS, candidate in a competition for the academic position of "Associate Professor" in the professional field 4.3. Biological Sciences, scientific specialty "Virology", code 01.06.13, announced in SG no. 57 of 16.07.2021, for the needs of the section "Pathology" at IEMPAM - BAS.

I declare that there are no conditions for conflict of interest between me and the candidate Ch. Assis. Prof. Ani Krasimirova Georgieva within the meaning of paragraph 1, items 2a, 3, 4 and 5 of the Additional Provisions of the Law on Development of the Academic Staff in the Republic of Bulgaria (ZRASRB). The documents required for the preparation of an opinion provided to me have been formed in accordance with the requirements of IEMPAM-BAS and submitted in time.

Chief Assist. Prof. Dr. Ani Georgieva is the only candidate in the competition.

Biographical data about the candidate: education, qualification, professional development

Chief Assist. Dr. Ani Georgieva graduated from 138 High School "Prof. Vasil Zlatarski "(Sofia) in 1995 and a master's degree in "Molecular Biology "at Sofia University" St. Kliment Ohridski ", Faculty of Biology in 2000. She had worked as a laboratory assistant at IEMPAM-BAS in the period 2002-2003, and since January 2004 she had been enrolled as a full-time PhD student at the same institute. She worked as a specialist in molecular biology from 2007 to 2011, as an assistant from 2011 to 2015 and as a chief assistant from January 2016 until now. In 2014, after successful defense of a dissertation at IEMPAM-BAS on "In vitro and in ovo models of chemical and retrovirus-induced carcinogenesis" she acquired Education and Scientific Degree (ESD) "Doctor" in "Virology".

Evaluation of the candidate's research activity

Quantitative presentation and authorship

Chief Assist. Dr. Ani Georgieva presents a list of publications with a total of 40 titles, as follows: 5 related to the acquisition of ESD "Doctor", 21 publications that are referenced and indexed in world-famous databases of scientific information (Web of Science and Scopus), 2 publications that are referenced and indexed in world-famous databases with scientific information (Web of Science and Scopus), without SJR and IF, and 12 scientific publications in journals that are not indexed in the specified world-famous databases with scientific information. She is the leading author in 10 of the articles she has submitted for participation in the competition (25%), in 12 articles (30%) she is the second co-author, and as the third co-author she is in 6 articles or 15% of the total number. These indicators support a certain independence and initiative in the scientific research activities of the candidate. These works have found a wide response among the scientific community at home and predominately in abroad - a total of 93 citations have been noticed, mostly by foreign authors and in publications from journals with an impact factor.

Areas of research and contributions from scientific papers

The research activity of Ch. Assist. Prof. Ani Georgieva, conducted for more than 16 years, is in the field of cell biology, virology and experimental pathology. It is related to several areas, the most important of which are clarification of the factors and mechanisms responsible for the initiation and development of neoplastic tumor processes, taxonomic characteristics and identification of isolated in Bulgaria avian oncogenic retroviruses, determining their phylogenetic relationship with other members of the group. avian leukemia and sarcoma viruses, as well as studies on the genetic and species diversity of viruses in honey bees in Bulgaria.

The scientific and scientific-applied contributions from the scientific work are within the main directions of the conducted research activity including:

- Six of the most common viruses in *Apis Mellifera* honey bees have been detected and identified, namely wing deforming virus, acute paralysis virus, chronic paralysis virus, vesicular rot virus, Kashmiri virus and black queen virus in samples from different regions of the country. Their phylogenetic origin and possible paths of geographical distribution are clarified;
- A new in vitro model system has been developed, contributing to the reduction of experimental animals used in research on virus-induced neoplasia and to assess the antitumor activity of various natural and synthetic substances and preparations. Their effectiveness was evaluated, as well as those of new nanostructured materials regarding the potential application as antitumor drugs;
- New approaches and strategies for cancer treatment and prevention have been developed. The antitumor activity of alkylphosphocholine erufosine was studied in in vitro and in vivo model systems. It has been shown to be due to disruption of tumor cells' lipid metabolism and modulation of lipid-dependent signal transduction involved in the control of cell proliferation, differentiation and death. Experimental data suggest that erufosine is a promising antitumor agent and its use as part of complex chemotherapy may increase the efficacy and reduce the adverse side effects of currently used cytostatics;

- Hemocyanins and mucus from *Helix aspersa* have been shown to demonstrate significant antineoplastic activity and potential to develop new therapeutic agents for the treatment of colorectal cancer;
- Model systems, as an alternative to experimental animals for research in virology and tumor biology, including the assessment of the genotoxic and carcinogenic potential of chemicals and preparations, have been successfully introduced and applied in research practice, as an alternative to experimental animals;
- The collection of cell and tissue cultures of IEMPAM-BAS has been created, maintained and enriched. It includes both the cell lines available in the collection and the newly purchased cell lines, as well as the obtained primary cultures and permanent cell lines from tumor and embryonic tissues of different classes of organisms (birds and mammals), necessary for the implementation of current research projects.

These and many others scientific and scientific-applied contributions are a regular and logic result of the active research work of Dr. Georgieva and it would be impossible if a wide range of classical and modern molecular biological, cell biological, virological, histopathological and morphological methods have not been applied in their details and executed precisely. They are skillfully combined in the implementation of 14 research projects (10 funded by the National Science Foundation, two under contracts with higher education institutions in Bulgaria and two under European programs), as well as in the training of graduates from higher schools and universities in the country and abroad. The obtained results are met with interest in their presentation - a total of over 70 national and international scientific forums.

CONCLUSION

Based on the above described, I give a general positive assessment of the candidacy of Chief Assist. Prof. Dr. Ani Georgieva for holding the academic position of "Associate Professor". I express my definitive positive vote "Yes" for the award of the academic position of "Associate Professor" in the scientific specialty "Virology" to Dr. Ani Georgieva. Her research skills and the achieved scientific and scientific-applied results are a reliable basis and guarantee for successful research in these areas and their further development in the future. Completely covering and even exceeding the minimum requirements of ZRASRB, as well as the required criteria of the Institute of Experimental Morphology, Pathology and Anthropology with a Museum at BAS, and given all the above arguments, I propose to the esteemed Scientific Jury to award Ch. Assis. Prof. Dr. Ani Georgieva the academic position of "Associate Professor" in the scientific field 4.3. Biological Sciences and scientific specialty "Virology".

16.11.2021, Sofia

Signature: 