Opinion

Presented to a scientific jury formed by Order No. 130 / 23.12.2019 of the Director of the Institute of Microbiology "Stephan Angeloff" at the Bulgarian Academy of Sciences

Subject: Competition for the occupation of the academic position Associated Professor, professional field 4.3. Biological Sciences (Virology), announced in SG No.93 / 26.11.2019 for the needs of the Department of Virology, IMikB, BAS.

Prof. Dr. Veneta Ivanova Grudeva

For the announced in the State Gazette, issue 93 / 26.11.2019 a competition for occupying an academic position Assistant Professor in the professional field 4.3. Biological Sciences (Virology) for the needs of the Institute of Microbiology "Stephan Angeloff" (IMikB) at the Bulgarian Academy of Sciences, Department of Virology has submitted the documents only Dr. Ivanka Nikolova Nikolova, Assistant Professor at the same Institute, Head of Laboratory of the Department Department of Experimental Chemotherapy for Enterovirus Infections.

Short biography of the applicant

Chief Assist. Dr. Ivanka Nikolova Nikolova graduated as Master of Biology and Chemistry at Sofia University "St. Kliment Ohridski" in 1995. From 1998 to 2001 he holds a PhD in Virology at the Institute of Microbiology at the Bulgarian Academy of Sciences where she defended her dissertation and received her educational and scientific degree. Doctor. From 2002 to 2003 she is a biology specialist at the Institute, and from 2004 she is a research associate at the same institute. After maternity leave since 2008, she is the Assistant Professor in the Virology Department. Since 2012 she has been Head of the Laboratory for Experimental Chemotherapy for Enterovirus Infections, and since 2016 she is currently Head of the Department of Virology.

The candidate's scientific career is related to the topic of the competition and reflects current and perspective directions of virology, in particular in the field of experimental chemotherapy of viral infections.

The candidate has developed as a researcher entirely at the Institute of Microbiology where she has actively participated in scientific life, she is the secretary of the scientific seminar on Virology, the secretary of the Foundation “Acad. Prof. Dr. Stephan Angeloff "and is a member of the Union of Scientists in Bulgaria.

Analysis of the materials submitted for participation in the competition in accordance with the ZRARB and the Regulations thereto

1. According to criterion A

An abstract of the dissertation for the award of the Doctor of Science and the publications for its award is presented.

A total of 50 points. (Minimum 50 points required)

2. By Criterion B.

Articles are presented in which the candidate is the first or corresponding author, the works are in the journal with an impact factor as well as participation in a collective monograph, and a chapter in a book.

102. Points (minimum 100 points required)

3. According to Criterion D

Twelve scientific papers were presented, 9 of them in Impact Factor journals and 3 in book and article chapters in a collective monograph. Of the articles with Impact0 Factor magazines, two are in Q1 magazines, three are Q2, 3 are Q3, and one is Q4.

210 points total (minimum 200 points required)

4. According to Criterion D.

133 citations have been presented in renowned scientific journals of 9 scientific papers. A total of 266 points (a minimum of 50 is required).

Conclusion: The applicant meets the criteria of the ZRABRB and its implementing regulations.

Analysis of the materials submitted for participation in the competition agrees with the additional requirements of IMICB

To participate in the competition, the candidate submits 25 scientific papers, 3 of which are for the acquisition of a scientific degree "Doctor" (2 of them in impacted magazines). Of the other 22 scientific papers (20 in Virology and 2 in Microbiology), 13 are in Impact Factors. Total Impact Factor - 26.23. A list of cited works is presented - 133 citations in 9 publications. H-index 3 (Scopus). She is the first author in seven of the articles. She has participated in papers and posters in 36 international and national scientific forums.

The candidate is a member of the teams of 9 projects, 3 of which are international, 4 funded by the NSF and two by BAS.

She is the head of two projects.

Conclusion

The applicant fulfills the additional requirements of IMICB with the exception of the H - factor, which is below the required but at the same time the indicators are higher by the other two criteria. Having analyzed the candidate's publications in recent years, I am convinced that this indicator will be increased in a short time. This gives me reason to believe that it meets the additional requirements of IMicB.

Characteristics of the applicant's research activity

The analysis of the scientific papers shows that the results reported in them are the personal work of the applicant and her co-authors and there is no evidence of plagiarism.

The main contributions reflected in the publications of Assist. Prof. Ivanka Nikolova is mainly in two directions - experimental chemotherapy of viral infections and in particular enterovirus infections and detection, genotyping and genetic analysis of various DNA viruses (cytomegalovirus and papilloma viruses) in samples from Bulgarian patients.

More significant contributions can be made:

• The development of resistant enterovirus mutants in vivo and in vitro for one of the most effective enterovirus inhibitors, disoxaril, has been demonstrated for the first time.

• A package of phenotype markers has been introduced to characterize viral drug mutants (resistant and dependent) as an important step in the study of enterovirus inhibitors.

• Molecular bases of drug resistance have been identified as a result of RNA sequencing performed on the model of Coxsackie B1 disoxaryl mutants.

• For the first time, the study of the combined effects of selective inhibitors of enterovirus replication was introduced, and different mechanisms of action in anti-enterovirus agents are sequential alternative (CAA), a novelty in the chemotherapy of viral infections.

• In vitro synthesis and screening for anti-enterovirus activity (against PV1, CVB1 and CVB3) of over 70 new analogues of MDL-860 (a key compound for the construction of a triple anti-enterovirus combination) has been performed.

• Broad-based screening was conducted to detect prospective inhibitors of the replication of enteroviruses, herpes viruses, adenoviruses, and respiratory syncytial virus, such as tested silanes, merocyanins, salts of violoric acid, elagitanitin derivatives, tanagin synthetics vulgare L.

• Cytomegalovirus DNA has been tested and detected in patients with undetected eye disease

• Genotyping of HPV DNA was performed in samples from patients with throat cancer.

• Genomic changes in cervical precancerous lesions and tumors induced by different types of human papillomaviruses from Bulgarian patients were studied for the first time through microchip CGH analysis

From 2014 to 2019 Assoc. Prof. Dr. Ivanka Nikolova is a part-time lecturer at the New Bulgarian University where she lectures on Virology and practical classes on genetics, virology and infectious agents and the Faculty of Physics of Sofia University where she teaches a course on viral and bacterial infections the eye. Her teaching capacity is impressive.

Personal impressions

I do not know the candidate, but as I got acquainted with the competition materials, I was impressed by her growing up as a researcher who went through all stages of career development at the Institute of Microbiology. It is obvious that she is an erudite specialist in the field of virology, a researcher with the ability to work in a team, with excellent collaborative contacts with colleagues from the institute and other departments (SU, Medical Academy, Institute of Organic Chemistry, Pasteur Institute, Paris). I admire her persistence and consistency in science.

CONCLUSION

The analysis of the scientific achievements of Assist. Prof. Dr. Ivanka Nikolova show that she is a qualified specialist in the field of virology, with the potential for even more active future development. Meets the requirements of the ZRASRB and its Regulations and the additional requirements of IMICB.

This gives me reason to be convinced to propose to the Scientific Jury and the Honorable Scientific Council of the Institute of Microbiology at the BAS to elect Dr. Ivanka Nikolova, PhD, for Associated Professor in the professional field 4.3. Biological Sciences (Virology), announced for the needs of the Department of Virology at the Institute of Microbiology of BAS.

Prof. Veneta Groudeva