To the members of the Scientific Jury,
determined by order No. RD-38-609/14.11.2024
of Prof. Dr. Atanas Gerdzhikov
Rector
SU "St. Kliment Ohridski"

OPINION

Associate Professor Ivaylo Alexiev Ivanov,
head of the National Reference Confirmatory Laboratory of HIV
National Center of Infectious and Parasitic Diseases, Sofia, Bulgaria

for an announced competition for the occupation of an academic position "ASSISTANT PROFESSOR" in professional direction 4.3. Biological sciences (Virusology - molecular virology), announced in SG no. 86 of 13.10.2023

Dear members of the scientific jury,

The Management of SU "St. Kliment Ohridski" announced a competition and Chief Assistant Anton Veselinov Hinkov PhD submitted the required documents. The candidate's submission met the requirements of the Law on the Development of Academic Staff in the Republic of Bulgaria and the Regulations for the Development of Academic Staff at SU "St. Kliment Ohridski".

Biographical data of the candidate

Education and academic development

- Anton Veselinov Hinkov completed his secondary education at "Peter Bogdan" High School in Montana.
- In 2006, he obtained his Master's degree from the Faculty of Biology at Sofia University "St. Kliment Ohridski", with a specialization in "Molecular Biology".
- In 2012, he defended his doctoral thesis entitled "Investigation of newly synthesized styrylquinolines for anti-HIV-1 activity in cell culture" at Sofia University "St. Kliment Ohridski"

Professional and academic development

- 2014 - until now Chief Assistant - Sofia University "St. Kliment Ohridski", Faculty of Biology.
- 2012 - 2014 Assistant - Sofia University "St. Kliment Ohridski", Faculty of Biology.
- 2011 - 2012 Specialist Virologist - Sofia University "St. Kliment Ohridski", Faculty of Biology.

Evaluation of the candidate's scientific activity and contributions.

Dr. Anton Hinkov's scientific work has focused on several main areas related to the antiviral effect of various physical and biological factors. These areas can be thematically grouped into the following categories: (I) research into the antiviral activity of natural products; (II) investigation of the antiviral activity of newly synthesized substances; and (III) study of the antiherpes effect of physical factors.

In the first area, Dr. Anton Hinkov has conducted extensive research on modern therapy for human herpesvirus types 1 and 2, including resistant strains. A variety of extracts from different sources, including plants, invertebrates, and microorganisms, have been meticulously investigated to determine their potential inactivating activity on viruses. Dr. Anton Hinkov's significant contributions to this area include the revelation of antiviral properties of extracts from Bulgarian medicinal plants and the antiviral effect of hemocyanins isolated from the Black Sea horsetail in collaboration with an international team of experts. These findings aim to identify potential opportunities for the development of effective antiherpes drugs and their practical application.

The second area of Dr. Anton Hinkov's contributions is the investigation of new or modified synthetic peptidomimetic compounds that could possess inhibitory properties to the HIV-1 protease as a target for therapeutic inhibitors. Dr. Anton Hinkov has identified four new dihydroxyethylene isosteres of the dipeptides Phe-Pro and Pro-Pro, which were then tested in a recombinant protease. Additional studies were conducted on two Phe-Pro isosteric inhibitors in vitro, which demonstrated a reduction in HIV-1 replication in infected MT-2 cells. Dr. Anton Hinkov's newly synthesized Gly-ABC ester has also shown potential to reduce the side effects of abacavir therapy. It demonstrated low cytotoxicity, high anti-HIV-1 activity, low mitochondrial toxicity, and a high genetic barrier to resistance.

The third area of Dr. Anton Hinkov's work is related to the study of the impact of physical factors on the replication and extracellular virions of herpes viruses type 1. Hinkov conducted the world's first study on the influence of surface wave non-equilibrium gas discharge plasma on its antiviral effect on human herpes virus type 1. The study demonstrated a reduction of virus titer in plasma-treated samples compared to the control group.

In summary, Dr. Anton Hinkov's contributions to the field of antiviral research are significant and diverse. His research has the potential to advance the development of effective antiviral drugs and their practical application, particularly in the areas of natural products, synthetic peptidomimetic compounds, and physical factors.

Publication activity and citations

The publishing activity of Dr. Anton Hinkov, includes a total of 32 articles published in international and national scientific journals, 23 of them are articles with IF or SJR-factor and 9 without IF or SJR-factor. 17 of the publications are related to the "Assistant Professor" competition. The total IF of Dr. Anton Hinkov, is 45,892, and the IF of the articles included in the current competition for "Assistant Professor" is 32,77.

Dr. Anton Hinkov, has participated with reports or posters in 43 scientific forums in the country and abroad.

The candidate's scientific contribution is also confirmed by the number of citations, 13 of the articles (which are related to publications under the current competition) have a total of 93 citations. All articles with his participation have a total of 101 citations.

Minimum required points by groups of indicators of Dr. Anton Hinkov, meet the requirements of the rules of the Sofia University "St. Kliment Ohridski".

Participation in scientific projects and guidance of graduate students

Dr. Anton Hinkov, has participated in 13 scientific projects funded by the Ministry of Education, Science and Research Fund, Sofia University "St. Kliment Ohridski" and Medical University. He is the scientific supervisor of 13 successfully defended diplomas in virology.

Evaluation of the teaching activity of the candidate

Dr. Anton Hinkov has extensive experience teaching virology at the Virology Laboratory, Faculty of Biology at Sofia University "St. Kliment Ohridski." Over the past five years, from 2018/2019 to 2022/2023, he has taught an average of 446 hours per year, with a total of 2228.7 hours for the entire period.

Conclusion

Dr. Anton Hinkov is a highly qualified young scientist in the field of experimental virology with considerable teaching experience. He has made impressive scientific achievements while working at the Laboratory of Virology at the Faculty of Biology of Sofia University "St. Kliment Ohridski". Dr. Hinkov has extensive theoretical knowledge and hands-on experience in virology. His scientific and publication activities are noteworthy, as his articles have been published in renowned scientific journals and are widely cited. Furthermore, he has experience in developing and managing scientific projects.

In my opinion, Dr. Hinkov possesses excellent professional and personal qualities, and his scientific contributions in the field of virology deserve recognition from the scientific community. I am confident that he will continue to make significant contributions to the

University's research and teaching activities. Based on his significant research achievements, teaching and management experience, and my personal conviction of his excellent qualities, I recommend Dr. Anton Veselinov Hinkov PhD for the position of Associate Professor in the scientific specialty of Virology at Sofia University "St. Kliment Ohridski".

Date 05.02.2024 Author of the review:
(Associate Professor Ivaylo Alexiev Ivanov)