



To
Chairman of the Scientific Jury,
determined by Order No R - 2300 / 03.07.2004

Bull. V. Aprilov No15A
4002 Plovdiv

On your Protocol No. 1/ of
(On the other hand, 1st meeting)

Attached I present: Opinion
on a competition for the academic position of **Professor**
in the scientific specialty **Medical Biology**
declared for the needs of MU-Plovdiv, cat. **Medical Biology**
in SG, No. 35/19.04.2024

Reviewer: Prof. Soren Bohos Hayrabyan, PhD
Scientific specialty **Immunology**
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Заличено на основание
Чл.5 §1, 6. "В" Регламент (ЕС)2016/679

The review has been compiled in accordance with the requirements of the Law on Professor and Section III / Section IV of the Law on the Promotion of Professors – Terms and Conditions for Occupying the Academic Position of Professor


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OPINION

UNDER A COMPETITION FOR THE ACADEMIC POSITION OF "PROFESSOR"

AT MU-PLOVDIV

I. Analysis of the candidate's career profile.

Assoc. Prof. Maria Hristova Kazakova is a prominent scientist and lecturer with a rich educational and professional career in the field of medical biology. She graduated with a Bachelor's degree in Molecular Biology (2005) and a Master's degree in Cell Biology (2006) from the University of Plovdiv "Paisii Hilendarski", where she later completed a Master's degree in Applied Research Management (2015.). In 2013 he defended his PhD in Immunology at the Medical University - Plovdiv. Her professional career began in 2005 as a biologist at the Department of Developmental Biology at the University of Plovdiv "Paisii Hilendarski", after which she went through various academic positions at the Medical University - Plovdiv, reaching the position of Associate Professor in 2016 and Head of the Department of Medical Biology in 2024. Kazakova has conducted a number of specializations and trainings abroad, including courses in immunology in Italy and Russia, as well as a short-term EFIS fellowship at the University of Catania, Italy. She has also participated in the Erasmus program, conducting mobilities at the University Campus Bio-Medico in Rome, Italy in 2018 and 2022.

II. General description of the submitted materials for the competition.

The submitted documents correspond in number and type to the required ones, being duly arranged.

III. Evaluation of the candidate's scientific works for the overall academic development.

Maria Kazakova has a total of 58 publications, of which 30 are in journals with impact factor, with a total number of positive citations of 365 and 2 monographs, and is a co-author of 20 textbooks and 1 textbook. After she acquired the academic position of Associate Professor, Assoc. Maria Kazakova has published a total of 22 scientific articles in journals with a total impact factor of 81.735. Of these articles, 8 are Q1 ranked, 8 Q2 ranked, 4 Q3 ranked, and 2 Q4 ranked.

The scientific activity of Assoc. Maria Kazakova is focused on several key areas, with the main areas of research including biomarkers and molecular signatures in inflammation and tumorigenesis, cell biology and cell metabolism. One of her major contributions is related to the study of the YKL-40 protein, which has been identified as a significant biomarker for monitoring diseases such as rheumatoid arthritis, systemic sclerosis, and metastatic colorectal cancer. It also offers mechanisms for regulating YKL-40 through miRNAs and long-stranded non-coding RNAs, which contributes to the understanding of post-transcriptional mechanisms in these diseases. Additional contributions include research on the lysosomal associated membrane proteins LAMP-1 and LAMP-2, which play a role in tumor progression and may serve as prognostic markers in high-grade gliomas and central nervous system infections.

In the field of cell metabolism, Assoc. Kazakova is a pioneer in the study of metabolic profiles in diseases such as Parkinson's disease and autism spectrum. It demonstrates how mitochondrial activity and changes in bioenergetic parameters can be used to monitor therapeutic response and predict clinical outcome. Her research has also shown significant changes in mitochondrial function in patients

with rheumatoid arthritis, which offers new perspectives for personalizing the treatment of these diseases.

Ass. Maria Kazakova is actively involved in scientific research, having participated in numerous national and international projects. She has led a total of 4 significant scientific projects, two of which are funded by the National Science Fund (NSF) and the Ministry of Education and Science (MES). Among these projects, the Strategic Research and Innovation Program of the Medical University of Plovdiv stands out, where she led a project for functional multiomics analysis in neurodegeneration with a budget of BGN 193,000. The total amount of projects managed by her amounts to BGN 331,110.

Ass. Maria Kazakova is the supervisor of two PhD students, one of whom has already successfully defended his PhD degree, and the other is in the process of defending.

Ass. Maria Kazakova is a recognized scientist with significant scientific and creative achievements, which include the publication of 58 scientific articles, participation in 98 scientific congresses and conferences (of which 33 are international), and an active role in scientific juries for the defense of doctoral degrees and the acquisition of academic positions. Her research, especially in the field of biomarkers and cell metabolism, has been widely cited, highlighting her scientific authority and significant contributions to medical science.

IV. Evaluation of the monographic work or equivalent publications submitted for participation in the competition for "Professor" by the candidate/s.

The habilitation work of Assoc. Maria Kazakova includes 5 scientific publications that are refereed and indexed in Scopus and Web of Science. The total impact factor of these publications is 17.193, with 2 of them having a Q1 rank and 3 a Q2 rank.

The habilitation work of Assoc. Maria Kazakova is focused on the study of the glycosyl hydrolase family 18, with a particular focus on the YKL-40 protein, which plays a key role in the mechanisms of inflammation and neurodegeneration. The paper looked at the functions of YKL-40 and other biomarkers such as NSE (neuron-specific enolase) and molecules associated with autophagy and neuroinflammation in the context of various pathological conditions, including Alzheimer's and Parkinson's disease. Significant contributions of habilitation work include the discovery of these biomarkers as potential tools for more accurate diagnosis and tracking of disease progression, as well as for assessing therapeutic response, which opens up new possibilities for the development of personalized therapeutic approaches.

V. Reflection (citation) of the candidate's publications in national and foreign literature (publication image).

Ass. Maria Kazakova has an h-index of 11, with a total of 256 citations in 31 cited documents, according to Scopus data. These data reflect a good interest in her scientific works and show potential for future development.

VI. Complex, qualitative assessment of the educational, methodological and teaching activities, incl. scientific supervision of students, PhD students, postgraduates.

In her teaching activities, Assoc. Prof. Kazakova has made a significant contribution as a co-author of 20 textbooks, 11 of which were created after the acquisition of the title of Associate Professor. She

is also a co-author of a textbook on parasitology in English, which is used in the current training at MU-Plovdiv. In addition, she has developed and delivered lectures in English on medical biology, by actively participating in the training of students, including those in English-language programs. Ass. Prof. Kazakova is the chairperson of committees for entrance exams in biology and is a scientific supervisor of PhD students and postgraduate students, and her expert activity extends to participation in scientific juries for the defense of doctoral degrees and academic positions. Assoc. Prof. Kazakova has successfully met the criteria for occupying the academic position of "Professor", according to the requirements of the Law on the Prevention of Corruption and Corruption and Corruption,

VII. Critical remarks and recommendations.

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VIII. An overall assessment of the candidate's compliance with the mandatory conditions and mandatory quantitative criteria and scientometric indicators according to the Regulations for Occupying Academic Positions at MU-Plovdiv, in Sections IV.-VI. "Terms and Conditions for Occupying Academic Positions at MU-Plovdiv" and "Evaluation Criteria" (part of the Rules of Procedure of MU-Plovdiv).

Based on the criteria set out in the Regulations for the Structure and Operation of the Medical University - Plovdiv, Assoc. Maria Kazakova fully meets the mandatory conditions and scientometric indicators for occupying the academic position of "Professor". In Indicator Group A, she has received 50 points for her dissertation for the award of the educational and scientific degree "Doctor". In Indicator Group B, for his habilitation work, presented in the form of scientific publications, Assoc. Kazakova has scored 110 points, meeting the requirement for at least 10 publications with a total of more than 100 points in journals referenced and indexed in world-famous databases.

By Indicator Group Assoc. Kazakova has achieved 317 points for publications and reports referenced in world-famous databases, which significantly exceeds the required minimum. In Indicator Group D, it has collected 252 points for citations and reviews in scientific journals referenced in world-renowned databases. In addition, in Indicator Group G, Assoc. Kazakova has 786 points for academic workload and 700 points for occupying an academic position.

In general, Assoc. Kazakova has significantly exceeded the required points in all groups of criteria, demonstrating both high scientific authority and active teaching. These results make her perfectly suitable for the academic position of Professor.

IX. Conclusion – meets / does not meet the mandatory and specific conditions and scientometric criteria – for the academic position of "Professor"

Assoc. Prof. Maria Kazakova fully **meets** the mandatory and specific conditions and scientometric criteria for occupying the academic position of "Professor", and based on the presented materials and achievements, she is the appropriate candidate for this position.