



## STANDPOINT

from prof. Marianna Atanassova Murdjeva, MD, PhD,  
Dept. of Microbiology and Immunology, MU-Plovdiv  
with specialties „Microbiology” and „Clinical Immunology”,  
member of the Scientific Jury

according to Vice-Rector's Order, MU-Plovdiv, No P-2300/3.07.2024  
regarding Competition for the Academic position “Professor”  
at the Dept. of Medical Biology, MU-Plovdiv

**Scientific specialty:** „Medical Biology“  
**Field of Higher Education:** 4. „Natural Sciences, Mathematics and informatics“  
**Professional direction:** 4.3. Biological Sciences  
**Department:** Medical Biology, Medical Faculty at MU-Plovdiv

### I. GENERAL DESCRIPTION OF THE SUBMITTED DOCUMENTS FOR THE COMPETITION

Associate Professor Maria Hristova Kazakova, PhD, was admitted as one candidate in this competition. The documents submitted by the candidate for the competition are in accordance with the requirements of the Law for Academic development in Bulgaria and with the respective Rules for the Activities and Internal Rules of MU-Plovdiv from 2022 year. They are presented in an electronic medium with a complete, accurate and clear description, well arranged. The procedure for determining the composition of the scientific jury with the aforementioned order of the Vice-Rector of MU-Plovdiv was also followed.

### II. ANALYSIS OF THE CAREER DEVELOPMENT OF CANDIDATE

Assoc. Professor Kazakova was born in 1982. She graduated from Paisii Hilendarski University (PU) of Plovdiv with a bachelor's degree in molecular biology (2005) and a master's degree in cell biology (2006). From 2005 to 2007 she worked as a biologist at the same university, and from 2007, after winning a competition, she was appointed as an assistant at the Department of Medical Biology at the MU-Plovdiv. This was followed by her upward academic development in the same structure successively through the positions of "chief assistant" (2014-2016) and "associate professor" (from 2016).

In 2013, she obtained a PhD in immunology from the Medical University of Plovdiv with the thesis topic "Immunobiological studies on YKL-40 in some inflammatory joint and tumor processes". In the same year, she also got the specialty in medical biology. In 2015, she completed a new master's degree at PU "P. Hilendarski" - manager of applied research, and in 2023 - 2024 she studied "Leadership: Creating Public Value" in Harvard University.

From 2019 to 2023, she is a member of the Council for Educational Activities, as well as the Council for Research Activities at the MU-Plovdiv. Since 2024, she has been a member of the Council of the Faculty of Medicine, Medical University - Plovdiv, and since April 2024, she has been the head of the Department of "Medical Biology" at the Medical University of Plovdiv.

She participated in 10 specialized courses and specializations in the country and abroad to increase competencies (in Plovdiv, Sofia, Italy, Russia), as well as in 2 mobilities under the Erasmus+ program. Associate prof. Kazakova is a member of the Union of Scientists in Bulgaria, the Society of Medical Biology and the European Immunology Society. She chairs the candidate student commission in biology in Bulgarian and English at MU-Plovdiv. She is an examiner of candidate-student competitive works in biology at the MU-Plovdiv since 2008. She participates in scientific juries for the acquisition of PhD degree and academic positions. She is a member of the

state examination committee for the specialty "Medical Biology" for obtaining a specialty in the field of health care. She is a supervisor of 2 PhD students and 2 specialists. Dr. Kazakova has B2 level for English language proficiency and an A1 level for Italian language, which undoubtedly find application in teaching foreign students, and the first one - in fluent handling of scientific literature in English.

The above-mentioned facts are indicators of the upward career development of the candidate with a focus on expanding her knowledge in the field of biology and a marked desire to acquire new professional skills. The acquisition of a specialty, the defence of the PhD, the successive growth in the academic positions of assistant, chief assistant and associate professor, as well as her participation in various qualification courses emphasize her serious preparation and grounds for participation in the competition for the academic position "professor". Evidence of her serious academic development is also the highest attestation grade that MU-Plovdiv gives - "very good".

### **III. EVALUATION OF SCIENTIFIC WORKS AND CITATIONS OF THE CANDIDATE FOR HER ACADEMIC DEVELOPMENT**

Dr. Kazakova presents in the competition:

- scientific publications, referenced and indexed only in Scopus and/or Web of Science, equated to habilitation work - 5 pieces. They represent the potential of YKL-40 and other molecules involved in the development of inflammation and neurodegeneration. All publications are with IF, total number of points – 110;
- publications in refereed journals in Scopus and Web of Science, excluding the ones attached above – 16. According to the quantitative criteria for the academic position "professor" in the Regulations of MU-Plovdiv, the required number of publications is 20. Associate professor Kazakova presents more - 22. Total number of points - 282;
- out of them, publications in journals with an impact factor – 13; the required are 8; total IF - 42.78
- out of them in quartile journals (Q1-Q4) – a total of 15 articles;
- publications in non-refereed Bulgarian journals with scientific review - 6; total number of points – 50;
- published chapter of a monograph in co-authorship - 15 items. Before "associate professor" she also presents another monograph or she has a total of 2 for his entire academic development;

With this, Dr. Kazakova's total number of publications after holding the academic position "Associate Professor" is 27. Before that, she had 31 publications, which brings the total number of her publications for her entire academic development to 58. Out of them, 19 are published in international journals after the position "Associate Professor", and before that – 18 (total 37). In journals with IF after the position "associate professor" are published 19, before "associate professor" - 11 or 30 in total.

- positive citations after "associate professor" in Scopus excluding self-citations - 221. Before "associate professor" - 55; total number – 365. They are an indicator that her articles have gained fame and recognition from foreign and Bulgarian authors;

- reviews of articles in international journals – 7 = 7 pts.
- H index according to Scopus – 11;
- participation and leadership in national and international projects and programs - 24 in total; 11 intrauniversity (of which 7 after "associate professor"), 9 national (of which 6 after associate professor) and 4 international (of which 1 after associate professor);
- participation in scientific forums after "associate professor" - 53, out of them - 21 in international and 32 - in national ones.

The topic of most publications, participation in scientific forums and projects is related to the main scientific directions in the candidate's activity - in the field of cell biology, cell metabolism and immunology.

In addition to this, Dr. Kazakova reviewed 2 scientific projects and participated with opinions/reviews for internal defenses of PhD students and as a member of scientific juries (11 in total).

The candidate's research contributions are in the following areas:

1) Biomarkers and signatures in inflammation and tumorigenesis. In this regard, a mechanism for the regulation of YKL-40 by miRNA-214 in patients with systemic sclerosis (SS) has been proposed, based on *in silico* and *in vitro* experiments in blood samples; for the first time she investigated the clinical significance of tissue expression of YKL-40 as a prognostic marker in metastatic colorectal carcinoma (CRC) and demonstrated that strong expression of YKL-40 at the tumor front in CRC could serve as a prognostic indicator. In addition to YKL-40 as a biomarker, the studies on LAMP-1 and LAMP-2 in oncological diseases and pathologies related to a chronic inflammatory process are also original. High gene and protein expression of LAMP-1 associated with tumor progression in high-grade gliomas has been demonstrated, as well as decreased expression of LAMPs in patients with CNS infections compared to controls.

2) Cell biology and cell metabolism. The biological activity of new fluorenyl spirohydantoin, the structure and biological properties of substituted fluorenyl spirohydantoin were determined for the first time. A metabolic profile in patients with autism spectrum disorder, changes in mitochondrial activity in a Bulgarian cohort and correlation with YKL-40 levels are also reported for the first time. New data are presented on the presence of mitochondrial dysfunction in isolated PBMCs from newly diagnosed patients with rheumatoid arthritis - increased ATP values in the group of patients with rheumatoid arthritis treated with JAK-inhibitors correlate with improvement in clinical and laboratory tests such as: ESR, anti-CCP, CRP, RF, as well as with the ultrasonographic assessments DAS28 and GUS7 after therapy. This suggests that the amount of ATP produced can serve as an indicator for monitoring the course of the disease.

#### **IV. EVALUATION OF TEACHING ACTIVITY OF THE CANDIDATE**

The attached official documents from MU-Plovdiv, showed that Dr. Kazakova has a serious academic workload, which is shaped by classroom, extra-auditory work and scientific results equated to academic activity. Her average annual study load for the 3 academic years presented (2020/21, 2021/22, 2022/23) is very high - over 800 hours, and for the last academic year - over 1200 hours. She has over 200% of the minimum horarium (360 hours) of an associate professor of MU-Plovdiv. Her academic work is related to:

- conducting lectures in Medical, Dental Medical and Pharmaceutical Faculties;
- carrying out practical classes in biology, parasitology and immunology for first-year students in the specialties of medicine, dentistry and pharmacy of MU-Plovdiv, incl. in English;
- participation in semester exams of first-year students in Bulgarian and English at MU-Plovdiv, as well as in those of candidate students.

Assoc. Prof. Kazakova is the co-author of 1 textbook on parasitology in English and 20 study manuals on medical biology in Bulgarian and English, of which 11 after holding the position of Associate Professor. All the mentioned manuals have been used or are currently used in teaching at MU-Plovdiv. She is also a co-author of tests and guidelines for candidate students in medicine, dentistry and pharmacy. She has a contribution to the development and inclusion in the medical biology curriculum at MU-Plovdiv of the practical classes, focusing on immunology in Bulgarian and English.

The described teaching activities prove her active involvement in the educational work of the department, with good teaching experience.

#### **V. GENERAL ASSESSMENT OF THE APPLICANT'S COMPLIANCE WITH THE MINIMAL NATIONAL REQUIREMENTS ACCORDING TO LAW OF DEVELOPMENT OF THE ACADEMIC POSITIONS IN BULGARIA AND THE SPECIFIC REQUIREMENTS OF MU\_PLOVDIV**

The quality of the content and quantitative indicators of the candidate's scientific output are a testimony to the serious practical applications of her research activity and to her ability to work in interdisciplinary teams. The niche of research interest focusing primarily on the YKL-40 protein and its role in various inflammatory and neurodegenerative processes is impressive. The presented evidentiary materials correspond to the requirements of the Law and twice exceed the specific requirements of the MU-Plovdiv for the appointment of the academic position "professor" (see the attached comparability table below).

## **VI. CONCLUSION**

**I know associate professor Kazakova personally from my professional contacts with her. My impressions are that she is organized, dialogic, consistent, executive, but also proactive, with teamwork skills. I am a witness of her upward career development as a PhD student and postdoc at MU-Plovdiv, of her responsible participation in the scientific and educational activities of the Department of Medical Biology at MU-Plovdiv. The previous management of the department, in the person of Prof. Sarafyan, also contributed to this, which created very good conditions for the professional growth of the staff.**

**In this competition, Prof. Kazakova presents herself with a thorough and systematized scientific production, with clear scientific and educational contributions in the field of medical biology. This unequivocally shows that she is a built professional, teacher and established scientist, meeting the criteria in the Law and in the Regulations of MU-Plovdiv for the acquisition of the academic position "professor". The submitted documents are in accordance with the announced scientific specialty of the competition.**

**In view of this, I propose to the respected members of the scientific jury to support the candidacy of Associate Professor Maria Kazakova for the appointment of academic position "professor" in medical biology for the needs of teaching students in Bulgarian and in English at the MU-Plovdiv, Department of Medical Biology (area of education 4. Natural sciences, mathematics and informatics, professional field 4.3. Biological sciences).**

GROUP	INDICATORS	VALUE (points)	PROFESSOR	Dr. KAZAKOVA points
A	1. PhD thesis	50	50 p	<u>50</u>
Б	2. DSci thesis	100		-
Б	3. Habilitation thesis	100	100 p	-
	4. Habilitation thesis or relevant scientific publications in indexed databases Scopus or WoS (25 p. - Q1, 20 p. - Q2, 15 p. - Q3, 12 p. - Q4, 10 p. publications in journals with SJR w/o IF)			<u>110</u>
Г	5. Published monography, which is not presented as main habilitation thesis	30	250 p  20 papers, out of them 15 in journals in Scopus or/and Web of Science, incl. 8 papers with IF	-
	6. Published book based on PhD defended thesis or DSci thesis	20		-
	7. Publications in indexed databases Scopus or WoS (25 p. - Q1, 20 p. - Q2, 15 p. - Q3, 12 p. - Q4, 10 p. publications in journals with SJR w/o IF)			<u>317 p</u> 22 papers, out of which 16 in Scopus/Web of Science, 13 with IF
	8. Published chapter in a book	15		-
	9. Patent with certificate	25		-
	10. Published issue for patent	15		-
Д	11. Citations and reviews in scientific journals, indexed in world-famous data-bases with scientific information (in Scopus and Web of Science)	2	100 p	221 citations evidence for 119 = 238 p + 7 p. from

				reviews= <u>245</u> p.
E	12. Acquired D Sci degree	75	150 точки - 2 PhD students - 1 research project, 1 study book защитили	-
	13. Scientific supervisor of 2 PhD students (n is the number of supervisors of 1 PhD students)	50/n		<u>50</u> (1 PhD student, successful defense and another in progress)
	14. Participation in national research or educational project	10		<u>40</u> ( 4 projects)
	15. . Participation in international research or educational project	20		<u>40</u> ( 2 projects)
	16. . Leader of national research or educational project	20		<u>80</u> (4 projects)
	17. . Leader of international research or educational project	50		
	18. Attracted funding from projects, coordinated by the candidate	1 т. за всеки 5000 лв.		331 110 lv = <u>66.2</u> p
	19. Published university book or book which is used in school	40/n		-
	20. Published university material which is used in school	20/n		-
Ж	Study activity:		360 points	<u>786</u>
	Academic workload (only lectures and practical classes):		(for the last 2 years 2 г. X 1p/h)	
	Academic position:		200 points (associate professor – 100 p. for 1 year)	7 г. x 100 = <u>700</u>
	<b>TOTAL</b>		<b>1210</b>	<b>2 484.2</b>

H-index – 11; min. 3 for „professor”

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Заличено на основание  
Чл.5 §1, 6. "В" Регламент (ЕС)2016/679