SCIENTIFIC OPINION

by professor Bistra Tsaneva Kaltcheva, PhD, professor of Biochemistry
at the Medical University "Prof. Dr. Paraskev Stoyanov" of Varna

Re: a competition for acquiring the academic position "**associate professor**", scientific specialty "**Biochemistry**", professional field **4.3. Biological sciences**, field of higher education **4. Natural sciences, mathematics and informatics**

Competition details

The competition for the academic position "Associate Professor" was announced in State Gazette No 59/26.07.2022 and is for the needs of the Department of Biochemistry, Molecular Medicine and Nutrigenomics, Faculty of Pharmacy, Medical University - Varna.

Based on the decision of the Faculty Council at the Faculty of Pharmacy (Protocol No 59/26.07.2022) and an order of the Rector of the Medical University of Varna (No. R-109-375 /September 26, 2022), I have been appointed as an internal member of the Scientific Jury. At the first meeting of the Scientific Jury, I was assigned to prepare a scientific opinion (Protocol No. 1/05.10.2022). The only candidate in the competition is assistant-in-chief Oskan Bakhidinov Tasinov, PhD from the Department of Biochemistry, Molecular Medicine and Nutrigenomics, Faculty of Pharmacy, Medical University of Varna.

Brief professional details of the applicant

Assistant-in-chief Oskan Tasinov began his professional carreer in 2010, when he was appointed as an assistant at the Department of Biochemistry, Molecular Medicine and Nutrigenomics at the Medical University - Varna through a competition. In 2012 he became a full-time doctoral student at the same Department, and in 2015, after successfully defending his doctoral thesis in biochemistry, he was awarded the educational and scientific degree PhD in the scientific specialty "Biochemistry". In 2016 Oskan Tasinov acquired a specialty in "Biochemistry" at the Ministry of Health and in the same year he was selected by competition as an assistant-in-chief at the Department of Biochemistry, Molecular Medicine and Nutrigenomics at the Medical University of Varna.

Scientific production

For participation in the competition assistant-in-chief Oskan Tasinov has submitted all the required documents, according to the requirements of the Law for development of the academic staff in the Republic of Bulgaria and of the Regulations for development of the academic staff at the Medical University of Varna for tenure the academic position “associate progfessor”. All the documents together with the evidentiary materials are neatly arranged.

From the attached ACADEMIC REFERENCE on the scientometric indicators for holding the academic position "Associate Professor" and from the evidentiary material, it is established that assistant-in-chief Oskan Tasinov covers the required minimum of 400 points for acquiring the academic position “Associate Professor” (Table 1).

Table 1. Minimum national requirements for acquiring the academic position "associate professor" and the relevant scientometric data of assistant-in-chief Oskan Tasinov

Group of indicators	Content	Minimum national requirements for acquiring the academic position "Associate Professor"	Scientometric data of assistant-in-chief Oskan Tasinov
A	**Indicator 1** - Dissertation thesis for acquiring the educational and scientific degree "PhD"	50	50
B	**Indicator 2** - Dissertation thesis for acquiring the scientific degree "DSci"	-	-
C	**Indicator 3** – habilitation work ,a monograph	100	100
D	**Indicator 7** - Scientific publications published in journals, referenced and indexed in worldwide scientific databases (Web of Science и Scopus)	200	204
E	**Indicator 11** - Citations in scientific publications, monographs and collective volumes and patents, referenced and indexed in worldwide scientific databases (Web of Science и Scopus)	50	50
	Total scores:	**400**	**404**

Assistant-in-chief Oskan Tasinov participated in the competition with **13 scientific publications**, referenced and indexed in worldwide scientific databases (Web of Science and Scopus), in **5** of which he is the first author. Of these, **7** fall into quartile 4 (Q4), **2** into quartile 3 (Q3), **2** into quartile 2 (Q2), and **2** into quartile 1 (Q1). Six of the full-text publications presented are in journals with an impact factor. The total impact factor is **20.094**.

The candidate has presented a list of 45 participations in International scientific forums, of which he is the first author in 11. There are 12 participations in National scientific forums, of which he is the first author in 4.

Citations

A total of **25 citations** in scientific editions are presented.

Research activity and scientific contributions

The scientific works of the candidate are mainly in two scientific areas, **1. Food and nutrition** and **2. Oncology**, with specified sub-areas, that fall within the scientific priorities of the Medical University of Varna.

Scientific works in **scientific sub-area 1.1.** are devoted to the evaluation the biologic effects of medicinal plants *in vivo*, in intervention studies, and *in vitro* cell culture models. The polyphenolic composition of *Sambucus ebulus* fruit extracs was investigated and antioxidant (including expression of antioxidant enzymes), cytoprotective, anti-inflammatory and immunomodulatory activities of individual fractions were proved in cell culture models. Based on the results obtained, a hypothesis was raised that the potential molecular mechanism of the anti-inflammatory effect of *Sambucus ebulus* fruit extracs may involve the suppression of ER-stress.

Scientific works in **scientific sub-area 1.2.** are focused on the *in vivo* and *in vitro* evaluation the biologic effects of mineral waters and nutritional supplements containing micro- and macro-elements and their salts. In cell culture models, the cytotoxic effect of waters from Bulgarian wetlands containing toxigenic cyanoprokaryotes was proven. In an interventional study, the biological effects of sulfur-containing mineral water from the Varna Basin were studied, and improved redox status, antioxidant protection and anti-inflammatory effects have been proven.

In a cell culture models, the molecular mechanisms of action of the Schussler's salt Ferrum phosphoricum on cell proliferation and transcription of genes related to iron metabolism, antioxidant defense and inflammatory response were studied. New data were obtained both for the stimulating effect of the Schussler's salt on iron metabolism, antioxidant protection, and for its anti-inflammatory effect.

Scientific works in **scientific area 2** are focused on the study of predictive and prognostic-diagnostic biomarkers of colorectal carcinoma. Overexpression of circulating micro-RNA-618 in the serum of patients with metastatic colorectal carcinoma has been shown to be associated with colon cancer survival and risk. It has been hypothesized that miRNA-618 could be a potential prognostic biomarker in metastatic colorectal carcinoma.

Scientific monograph

The candidate has presented a scientific monograph entitled "Molecular mechanisms of the immunomodulatory action – a basis for the prophylactic and therapeutic potential of *Sambucus ebulus* L." The monograph has a volume of 167 pages; 456 scientific references were cited. The monographic work is dedicated a current trend in modern phytomedicine related to the usage of medicinal herbs as prophylactic and therapeutic remedy due to their biologic activity including immunomodulatory effect.

In the manuscript, a critical review of literature data is done and the author's experience in studying a number of *Sambucus ebulus* L. pleiotropic effects, including the immunomodulation, is shared. Special attention is given to interrelationships regarding inflammation and immune response. The monograph discuss signaling and metabolic pathways such as NF-κB and Nrf2 signaling pathway, MAPK-kinase, JAK-STAT, phosphatidylinositol-3-kinase signaling cascades, and arachidonic acid metabolism, relevant to both inflammation and immune response and as targets for plant immunomodulators.

In a logical sequence, an overview of the phytochemical composition of *Sambucus ebulus* L. is done, linking it to proven *in vitro* and *in vivo* biological activities of the herb - antioxidant, anti-inflammatory, antitumor, antibacterial, and antiviral activity. Based on author's results and on

literature data, an attempt has been made to explain at molecular level how major signaling pathways relevant to above-mentioned biological effects of *Sambucus ebulus* L. are affected.

The monograph is thoroughly written and has a specific scientific and applied orientation. A number of data are presented confirming the application of *Sambucus ebulus* L. in folk medicine, giving practical guidance for healthy nutrition in periods of weakened immune protection.

Educational and teaching activities

It is clear from the presented documents that for the period 2016-2021 the average study load of assistant-in-chief Oskan Tasinov is 539 hours of exercises in biochemistry with teaching in Bulgarian language and 1289 hours teaching in English. The average lecturing for the period is 41 hours of teaching in Bulgarian and 5 hours of teaching in English. This makes 1873 hours of study load for the period in total at a norm of 1800 hours.The information given above clearly demonstrates candidate's active participation in the educational and teaching process at the Department of Biochemistry, Molecular medicine and Nutrigenomics.

Critical remarks and recommendations

I have no significant criticisms to the candidate. I would recommend to continue to maintain high publication activity.

Conclusion

The materials submitted by the candidate for the competition clearly demonstrate that assistant-in-chief Oskan Bakhidinov Tasinov, PhD covers all scientometric indicators and meets the requirements for acquiring the academic position "Associate Professor", according to the Law for the development of the academic staff in the Republic of Bulgaria and of the Regulations for the development of the academic staff in the Medical University of Varna. The presented scientific works and evidentiary material for his scientific activity meet the quantitative and qualitative criteria for tenure the academic position "associate professor".

I give my **positive assessment** to assistant-in-chief Oskan Bakhidinov Tasinov, as a participant in this competition, and I reccomend to the respected members of the Scientific Jury to award **Oskan Tasinov**, the academic position "**associate professor**" in the scientific specialty "**Biochemistry**", professional field **4.3. Biological sciences**, area of higher education **4. Natural sciences, mathematics and informatics** for the needs of the Department "Biochemistry, molecular medicine and nutrigenomics" at the Faculty of Pharmacy, Medical University of Varna.

November 30, 2022г.

Opinion prepared by:.....

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