To: The Chairman of the
Scientific Jury, appointed by order of the Rector of MU
"Prof. Dr. Paraskev Stoyanov"-Varna,
No. P-109 442/05.12.2024

R E V I E W

by Prof. Lyubka Pavlova Tancheva, MD, PhD
Institute of Neurobiology, Bulgarian Academy of Sciences

Regarding: Competition for the academic position "Associate Professor"; Field of Education 7. Health Care and Sports; Professional field 7.3. Pharmacy; Scientific Specialty "Pharmacology (incl. Pharmacokinetics and Chemotherapy)", for the needs of the Department of "Pharmacology, Toxicology and Pharmacotherapy" at the Faculty of Pharmacy of the Medical University - Varna.

This review was prepared in accordance with the requirements of the The Law on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for the Implementation of the Academic Staff Development, and the Regulations for the Academic Development at the Medical University "Prof. Dr. Paraskev Stoyanov", Varna. The only candidate for participation in the competition for "ASSOCIATE PROFESSOR" announced in the State Gazette No. 85 of 08.10. 2024 is Chief Assistant, Master of Pharmacy Stela Toshkova Dragomanova, PhD.

1. PRESENTATION OF THE PROCEDURE

The set of materials for the competition, submitted to me by the candidate in electronic form, is in full compliance with the legal requirements, criteria and indicators for occupying the respective academic position, according to the Law on the Development of Academic Staff and the Regulations for its implementation, as well as according to the Regulation for occupying the academic position "Associate Professor" in the Regulations for the organization and activities of MU-Varna. All administrative deadlines for conducting the competition have been met. The submitted evidentiary materials do not repeat those for acquiring the academic position "Doctor".

The documents submitted in electronic form by Dr. Stella Dragomanova for participation in the competition include:

- Application to the Rector for admission to participate in the competition;
- CV;
- Copy of higher education diploma with appendix;
- Copy of diploma for "doctor" in the scientific specialty "Pharmacology (including pharmacokinetics and chemotherapy);
- Certificate of internship in the specialty and teaching experience;
- Academic transcript of study load;
- Medical certificate and criminal record certificate;

• Data protection notice;
• Declaration of authenticity;
• Academic transcript;
• Monograph;
• Declaration of author's consent;
• Summary of monographic work;
• Summary of scientific works;
• Certificate of original scientific contributions;
• Certificates of participation in scientific sessions;
• List of participation in national and international forums;
• Certificate of similarity.

2. CANDIDATE'S CAREER PROFILE and BIOGRAPHICAL DATA

The candidate in the competition, Dr. Stela Dragomanova, received a bachelor's degree in 1997 in the specialty "Pharmacist Assistant" (Medical College - Varna), and later a master's degree, specialty "Pharmacy" (Medical University - Sofia, 2004). After graduation, she immediately started working, first as a pharmacist in open-type pharmacies, and then as a pharmacy manager, for about 5 years

Master-pharamacist Stella Dragomanova began her teaching career as an Assistant in Pharmacology at the Department of Pharmacology, Clinical Pharmacology and Therapy, Faculty of Medicine (2010), and later worked at the Faculty of Pharmacy at the Department of Preclinical and Clinical Sciences of the Medical University "Prof. Dr. Paraskev Stoyanov" in Varna. From 2015 to the present, Dr. Stella Dragomanova continues her teaching at the Faculty of Pharmacy, Department of Pharmacology, Toxicology and Pharmacotherapy, where for 6 years she has been an administrative assistant. Since 2021, Dr. Dragomanova has been a Chief Assistant in the same department. Outside of her teaching, she works individually with students and supervises graduate students.

Her academic career began in 2014, when Stella Dragomanova was enrolled as a part-time PhD student at the Institute of Neurobiology, specialty "Pharmacology" (7.1. Medicine) at the Bulgarian Academy of Sciences. Stella Dragomanova presented excellently on September 15, 2020 at the Institute of Neurobiology – BAS, and defended her first PhD thesis on the topic: "Pharmacological, toxicological and neurobiological studies of myrtenal - a bicyclic monoterpenoid of natural origin".

Since 2022, Stella Dragomanova has been enrolled in PhD studies again, but on independent training in the Department where she works, in the specialty "Pharmacology, incl. Pharmacokinetics and Chemotherapy" (7.3. Pharmacy); MU- Varna. In 2024, she successfully defended her second dissertation on the topic: "Neuropharmacological study of myrtenal conjugates with aminoadamantane".

Chief Assistant Dr. Stella Dragomanova possess a specialty in "Clinical Pharmacy" (2017) and has completed an additional qualification course "Protection and Humane Treatment of Experimental Animals Used for Scientific and Educational Purposes" at the Faculty of Veterinary Medicine of Trakia University, Stara Zagora (2015).

Dr. Stella Dragomanova is a member of the Bulgarian Pharmaceutical Union, the Bulgarian Society of Pharmacology, Clinical Pharmacology and Therapy, the Bulgarian Scientific Society of Pharmacy and the Bulgarian Toxicological Society.

Chief Assistant Dr. Dragomanova has excellent organizational skills. Since 2017, she has been part of the Organizing Committee of the annual Pharmaceutical Business Forum, hosted by the Faculty of Pharmacy at MU-Varna, as the organizer of the continuing education for master pharmacists within the meaning of the law on professional organizations. She is fluent in English and Russian, and has excellent computer skills.

2. EDUCATIONAL, METHODOLOGICAL AND TEACHING ACTIVITIES

The teaching activity of Chief Assistant Stella Toshkova Dragomanova is in the field of pharmacology, toxicology and pharmacotherapy training and corresponds to the scientific field in which the competition is announced. The candidate has more than 15 years of teaching experience. From the attached references for teaching workload in the academic years 2019 - 2024, Dr. Dragomanova has a total workload of 1852 hours, i.e. over 370 hours on average per year, which exceeds the required norm of 360 hours per year.

Dr. Stela Dragomanova teaches full-time students in the following disciplines:

- "Pharmacology" – for students of pharmacy, medicine, dentistry and pharmacist assistants;
- "Toxicology" – for students of pharmacy and pharmacist assistants;
- "Allergology and Toxicology" – for students in the master's program "Cosmetology"

Along with this, Senior Assistant Professor Stella Toshkova Dragomanova works individually with students, supervising one graduate student. Dr. Dragomanova has presented the results of her scientific research at 55 national/international forums.

Senior Assistant Professor Stella Dragomanova is a beloved and at the same time respected lecturer with excellent organizational, pedagogical qualities and very good communication skills. She manages to attract students and young colleagues to her research work and to build teams. As a result, she has joint publications with young people included in her team. This ability to work in a team and train young specialists is an important indicator of the candidate's qualities.

In conclusion, I highly appreciate the personal professionalism of Chief Assistant Stela Dragomanova, as well as her excellent theoretical and practical training as a lecturer with an established authority among colleagues and students of the Faculty of Pharmacy, MU-Varna.

3. SCIENTIFIC RESEARCH ACTIVITY

The candidate's numerous scientific works, including her first dissertation (Dragomanova S. "Pharmacological, toxicological and neurobiological studies of myrtenal - a bicyclic monoterpenoid of natural origin", BAS, 2020), are dedicated to the various biological effects of the bicyclic monoterpenoid myrtenal in healthy rodents and in experimental models of neuronal damage. Dr. Stella Dragomanova's scientific interests also include the study of other compounds of natural origin and their neuroprotective potential - ellagic acid, lipoic acid, trehalose, etc.

Dr. Dragomanova's second dissertation on the topic "Neuropharmacological study of myrtenal conjugates with aminoadamantane" was defended in 2024 at the Medical University - Varna.

The academic reference, prepared in the library of MU-Varna, is based on automated information from international scientific databases and data provided by the candidate. It is worth noting that Dr. Dragomanova has active scientific profiles in the Google Scholar, Web of Science, Scopus, ResearchGate databases.

A certificate of her excellent research work is the grant she won for participation in the scientific forum 29th ECNP Congress (2016), the selection of one of the articles with student participation for the cover of Current Issues of Molecular Biology (IF=2.8) for February 2025, as well as her numerous participation in 55 scientific conferences during the period 2013 – 2023.

I highly appreciate the expertise and high professional qualification of Chief Assistant Stella Toshkova Dragomanova, proof of which is her participation during this period as a researcher or expert in the following projects:

4 national projects funded by the Science Fund at MU-Varna;
1 research project funded by the Science Fund at the Ministry of Education and Science
1 youth research project - funded by the Science Fund at the Ministry of Education and Science
1 research project at the South-West University "Neofit Rilski"

2.1. Significance and relevance of scientific and applied scientific contributions

The research interests of the candidate in the competition, Dr. Stella Toshkova Dragomanova, are focused on several modern directions in the field of pharmacology and neuropharmacology, as follows:

- Studies on experimental models of neurodegeneration;
- Study of the neuroprotective potential of compounds of natural origin (myrtenal, ellagic and lipoic acids, polyphenols from plant extracts of Punica granatum and Geranium sanguineum and trehalose);
- Study of the biological properties of newly synthesized derivatives of myrtenal and neurotensin;
- Study of new trends in the therapy of some metabolic and parasitic diseases

2.2. PUBLICATION ACTIVITY AND PARTICIPATION IN SCIENTIFIC FORUMS

The members of the Scientific Jury are presented with scientific papers and participation in scientific forums for the period from 01.01.2013 to 30.06.2024.

Evidence material has been presented that meets the scientometric requirements for holding the academic position of "Associate Professor" and includes:

1 monograph (main habilitation thesis),

19 articles in English in scientific publications, referenced and indexed in world-renowned databases of scientific information (Web of Science and Scopus)

3 articles published in non-refereed journals with scientific review.

Eight of the presented articles are in journals with a high impact factor, including the prestigious scientific publications Biomolecules (IF = 5.5 for 2022), Life (IF = 3.2 for 2022), Antioxidants (IF = 7.675 for 2021), International Journal of Molecular Sciences (IF = 5.6 for 2023), NeuroSci (IF = 1.6 for 2024), Nutrients (IF = 4.8 for 2024), Journal of Thermal Analysis and Calorimetry (IF = 2.25 for 2017).

The overall impact factor of the candidate, according to the academic reference from the attached documents, is IF = 29.643.

Beyond the minimum requirements, another full-text publication in Antioxidants 2020, IF = 7.675 (Academic reference No. 992/29.10.2024 from the attached documents) also was submitted.

The table presented by the candidate for the distribution of scientific publications and participations according to her place in the author team showed the following:

Senior Asst. Stella Dragomanova is the first author in 6 scientific publications (G.7.2, G.7.5, G.7.6, G.7.12, G.7.13, G.7.16), as well as in 25 scientific reports and posters from a total of 49 participations in national and international scientific forums.

In 31 of the presented papers, Dr. Dragomanova is the lead author (List 3.18 of the attached documents), which represents 43.7%.

In 7 scientific papers (G.8.1, G.8.3, A.8, A.19, A.21, A.25, A.27) Stella is the second author, which is 9.9%. In the remaining 33 publications, she is a subsequent co-author (46.5%).

The candidate's submitted reference for the impact factor of the journals, as well as the calculations for the points according to the requirements of the regulations of MU-Varna, are correct. I also accept the reference for the candidate's submitted publications, which fully meet the national requirements for holding the academic position of "Associate Professor".

I highly appreciate the publication activity of the candidate, whose main topic is related to the prevention and therapy of neurodegenerative diseases. Original new results have been obtained regarding the effects of substances of natural origin and their newly synthesized analogues, as evidenced by the great scientific interest and citation of the publications.

The exceptional interest in the candidate's scientific work can be seen from her personal recognition in the scientific space, as evidenced by the numerous invitations to publish in elite journals with a high impact factor and quartile. Senior Asst. Stella Toshkova Dragomanova has also been a reviewer of 13 scientific articles in several international scientific journals with high IF, namely - Molecules, Brain Sciences, Pharmaceuticals, Nutrients, Metabolites, Plants.

A full-text publication by Dragomanova *et* al. has been selected as the most significant scientific and applied achievement of the Institute of Neurobiology, Bulgarian Academy of Sciences for 2020. /Neuroprotective Mechanisms of Three Natural Antioxidants on a Rat Model of Parkinson’s Disease: A Comparative Study, Antioxidants 2020, 9, 49, https://doi.org/10.3390/antiox9010049/.

2.3. CITATION OF THE CANDIDATE'S PUBLICATIONS

The scientific interest in Dr. Dragomanova's publications is evident from their multiple citation in the literature. As of 01.11.2024, Dr. Dragomanova's scientific works have been cited 111 times (*Google Scholar*) in scientific publications, monographs and collective volumes,

referenced and indexed in world-renowned scientific information databases *Web of Science and Scopus.*

The candidate's individual h-index is 8 according to *Web of Science* and 11 according to *Google Scholar and Research Gate.*

The scientific research activity of Chief Assistant Dr. Stella Dragomanova exceeds the regulatory requirements for citation of scientific works in the competition.

Personal invitations have been extended to the candidate to be a responsible editor of elite scientific journals, such as *Molecules and Pharmaceuticals*.

One of Dragomanova's paper has been selected as the journal issue cover of CIMB and is showing on the journal's website (https://www.mdpi.com/1467-3045/47/2).

3. Presentation of the main contributions in scientific publications

3.1. Research activity on experimental models of neurodegeneration includes a number of multidisciplinary developments in partnership with leading scientists from various specialties – neurobiology, medicinal chemistry, biophysics, histology, bioinformatics and others, from several Institutes of the Bulgarian Academy of Sciences, Sofia University and Medical University-Sofia, the Center for Infectious and Parasitic Diseases etc. The candidate works in partnership with prominent scientists from Italy, England, Romania and Russia.

3.1.1. Efficiency and new modifications of known experimental models of Alzheimer's- type neurodegeneration - are described in detail in the candidate's monograph [B.3 – monograph]

Although the anticholinergic compound scopolamine has been established as a model substance in many scientific studies, its exact neurotoxic mechanisms have not yet been fully elucidated. Dr. Dragomanova's monograph provides up-to-date information on the cellular and subcellular levels of action of scopolamine as a model substance for inducing experimental Alzheimer's-type neurodegeneration [B.3]. An important part of the monograph is the presented own results and the analysis of the data in verifying the scopolamine model of neurodegeneration, illustrated with numerous original author's figures.

A new original dose modification of scopolamine-induced dementia, which has been validated behaviorally, biochemically and histologically, and allows for a more accurate reproduction of the nonlinear progression of the pathological process in two brain areas related to memory processes (cerebral cortex and hippocampus), is of significant scientific and practical contribution. The new dose modification of scopolamine-induced dementia, first established in the 2020 dissertation, achieves a more accurate reproduction of the nonlinear progression of the pathological process, which is a significant contribution of the study. This new experimental approach can be considered as a reversible model for neurodegeneration.

The monograph is aimed at a wide range of medical specialists - pharmacologists, toxicologists, neurobiologists, pharmacists, physicians, etc., who may find useful and up-to-date information on the pathogenesis of neurodegeneration and the mechanisms of the damaging effect of scopolamine. The monograph can also serve postgraduate and doctoral students in pharmacology to upgrade their knowledge on chemically induced models of neurodegeneration in laboratory rodents.

3.1.2. Development of new methods for diagnosis and detection of the pathological process of neurodegeneration

A new innovative approach based on differential scanning calorimetry (DSC) has been developed for the diagnosis and characterization of changes in the brain at the molecular and supramolecular level, associated with chemically-induced neurodegenerative disorders. The heat capacity curves in animals with experimentally induced dementia differ significantly from those of healthy rodents. The method allows to assess the preventive antidementia effects of natural biologically active substances and their effective combinations (myrtenal, ellagic acid, lipoic acid, ascorbic acid) in laboratory rodents. The strength of their protective effect is clearly reflected in the calorimetric scans of brain homogenates.

The results convincingly show that DSC is an innovative and suitable method for detecting changes in the brain microbiome, related to changes in the composition and processes occurring in dementia-affected brain tissues [D.7.9, 2017]. To date, the publication has been cited 17 times in refereed and indexed international scientific journals, which indicates the great interest in the original research conducted by the author team (*Research Interest Score 11.6).*

3.2. Study of the neuroprotective potential of natural bioactive substances with diverse mechanisms of action

3.2.1. Study of the biological properties of the plant monoterpenoid myrtenal on intact rodents

(D.7.5 from Academic reference No. 992/29.10.2024; A.17, A.18, A.19, A.21, A.22, A.26, A.31, A.32, A.33, B.7 from List of participations in scientific forums)

The neuropharmacological activity of the monoterpenoid myrtenal in rodents has been studied for the first time, with its single administration improving memory, probably by affecting GABA-ergic neurotransmission, corresponding to the docking studies conducted by the team. Repeated administration of myrtenal affects the cholinergic brain system and significantly increases ACh levels. It has been established that it has also analgesic and anti-inflammatory effects on experimental models, as well as a beneficial effect on the antioxidant status and lipid profile of laboratory rats.

3.2.2. Study of the neuroprotective properties of myrtenal on rodents with induced neurodegeneration

(D.7.12, D.7.13, D.7.16 from Academic reference No. 992/29.10.2024; A.9, A.10, A.12, A.13, A.14, A.17, A.25, A.29, A.34, B.4, B.9, B.10, B.12 from List of participations in scientific forums, and 1 publication outside the minimum scientometric requirements, presented in the candidate's Academic reference – Tancheva, L.P.; Lazarova, M.I.; Alexandrova, A.V.; Dragomanova, S.T.; Nicoletti, F.; Tzvetanova, E.R.; Hodzhev, Y.K.; Kalfin, R.E.; Miteva, S.A.; Mazzon, E.; Tzvetkov N. T., Atanasov A. G. Neuroprotective Mechanisms of Three Natural Antioxidants on a Rat Model of Parkinson's Disease: A Comparative Study. Antioxidants 2020, 9, 49. https://doi.org/10.3390/antiox9010049)

The neuroprotective potential of myrtenal has been established for the first time in laboratory rodents (mice and rats) on two experimental models of brain damage – Alzheimer's dementia and Parkinson's disease, and the main mechanisms of this effect (antioxidant and neuromodulatory) have been studied. The protective effects of myrtenal on emotional memory and orientation in demented mice are comparable to those of the reference galantamine, and the

reduced levels of lipid peroxidation in the rodent brain are comparable to those of the other reference – lipoic acid. The established correlations between the changed parameters (cognitive, biochemical and histological) reveal new preventive mechanisms of the substance on the progression of Alzheimer's type dementia.

For the first time, neuroprotective effects of myrtenal have been established on an experimental model (6-OHDA-induced) of Parkinson's disease in rats.

The registered protective effects of myrtenal in both animal models of neurodegenerative diseases are a serious contribution to experimental practice - both for additional verification of the models, and also for revealing new mechanisms of preventive and therapeutic action of the monoterpenoid in neurodegenerative disorders.

3.2.3. Study of the neuroprotective effects of polyphenol Ellagic acid

(D.7.8, D.7.14; 1 publication beyond the minimum scientometric requirements – Tancheva et al., Antioxidants, 2020, presented in the candidate's Academic reference; A.4, A.15, B.6, B.8 from List of participation in scientific forums).

For the first time, the effect of ellagic acid on a unilateral 6-OHDA-induced model of Parkinson's disease in rats has been studied. A reliable direct correlation has been demonstrated between the restoration of the dopaminergic system, the antioxidant effect and the improvement of neuromuscular coordination in experimental rat animals. For the first time, the ability of ellagic acid to affect the damaged hemisphere more strongly and selectively compared to the intact one has been established. Original integrated behavioral and biochemical data are presented to support the conclusions that ellagic acid has complex neuroprotective properties. At the same time, some new mechanisms underlying its preventive effect on impaired cognitive abilities in a mouse model of Alzheimer's-type dementia have been identified for the first time.

(D.7.12, D.7.13, D.7.16 from Academic reference No. 992/29.10.2024; A.9, A.10, A.12, A.13, A.14, A.17, A.25, A.29, A.34, B.4, B.9, B.10, B.12 from List of participations in scientific forums, and 1 publication outside the minimum scientometric requirements, presented in the candidate's Academic reference – Tancheva, L.P.; Lazarova, M.I.; Alexandrova, A.V.; Dragomanova, S.T.; Nicoletti, F.; Tzvetanova, E.R.; Hodzhev, Y.K.; Kalfin, R.E.; Miteva, S.A.; Mazzon, E.; Tzvetkov N. T., Atanasov A. G. Neuroprotective Mechanisms of Three Natural Antioxidants on a Rat Model of Studying the neuroprotective effects of the polyphenol ellagic acid

3.2.4. Investigation of new mechanisms in the neuroprotective effect of alpha lipoic acid

(D.7.6 from the candidate's Academic reference; 1 publication outside the minimum scientometric requirements – Tancheva et al., Antioxidants, 2020, presented in the candidate's Academic reference).

In addition to the known strong antioxidant and immunomodulatory effect of alpha lipoic acid, its antiviral profile was established. A large amount of data has been summarized and analyzed regarding the potential use of lipoic acid in viral infections, including Covid-19, reported in publication D.7.6 (2021), which at this time has been cited over 30 times in refereed and indexed international scientific journals *(ResearchGate)* and shows interest in the work *(Research Interest Score 20.3).*

3.2.5. Comparative studies on the neuroprotective mechanisms of three antioxidants on an experimental model of Parkinson's disease in rats.

For the first time, the neuroprotective effect of natural bioantioxidants: myrtenal, ellagic acid and α-lipoic acid, on an experimental 6-OHDA-induced model of Parkinson's disease has been studied comparatively. The similarities and differences in the mechanisms of their antiparkinsonian action in rats, assessed behaviorally and biochemically, have been demonstrated.

At present, the publication, which is beyond the minimum scientometric requirements, presented in the Acad. candidate's reference (2020), has been cited 43 times in refereed and indexed international scientific journals, which shows the scientific interest in the original research conducted by the author team (*Research Interest Score 34.9).*

3.2.6. Study of the neuroprotective effects of trehalose and plant extracts from Punica granatum and Geranium sanguineum

(D.7.1, D.7.3, D.7.7 from the candidate's Academic reference)

The following are summarized experimental data on the protective effects of trehalose in pathological conditions of the central nervous system. It has been established that trehalose improves the survival and function of neuronal cells, modulates autophagy, stabilizes proteins and inhibits the formation of misfolded ones, reduces oxidative stress, stabilizes cell membranes and modulates mitochondrial function, attenuates excitotoxicity-induced neuroinflammation, etc. A possible connection of trehalose with the gastrointestinal tract-brain axis has also been studied, which highlights its potential therapeutic effects in neurodegenerative diseases.

It has been established that the extract of pomegranate (*Punica granatum*), containing a large amount of ellagic acid and other polyphenols and their metabolites, whose neuroprotective effects are mediated by their antioxidant, anti-inflammatory and chelating properties, affects mitochondrial damage, regulates autophagy, apoptosis, etc. in in vitro and in vivo author's studies. It is assumed that pomegranate polyphenols act directly on both neuronal and glial cells, regulate the blood-brain barrier, and increase blood flow to the brain. At this time, publication D.7.3 (2023) has been cited **19** times in refereed and indexed international scientific journals (*ResearchGate*), which is an indicator of scientific interest in the results of the conducted research (*Research Interest Score 15.2).*

The candidate's own preclinical studies in a team are summarized, along with literature data on the protective effects of **polyphenols** extracted from blood **Geranium (***Geranium sanguineum L***).** Evidence is presented for their good potential in alternative treatment of Covid-19 and other viral infections.

3.3. Pharmacological investigation of newly synthesized derivatives of natural compounds.

3.3.1. Newly synthesized conjugates of myrtenal with aminoadamantane

(A.1, D.7.2, presented in the candidate's Academic reference and 2 publications on the topic of the dissertation work for the acquisition of the ONS "Doctor" in direction 7.3. Pharmacy from the Academic reference – Dragomanova S., Andonova V. Adamantane-containing drug delivery systems. *Pharmacia* 2023; 70(4): 1057-1066. https://doi.org/10.3897/pharmacia.70.e111593; Dragomanova S., Andonova V., Lazarova M.,

Munkuev A., Suslov E., Volcho K., Salakhutdinov N., Stefanova M., Gavrilova P., Uzunova D., Kalfin R., Tancheva L. Memory-improving effects of myrtenal-adamantane conjugates. *Journal of Chemical Technology and Metallurgy*, 2023; 58, 3, 627-634.; A.34, A.35, A.36, B.12 from List of participations in scientific forums)

Newly synthesized derivatives of myrtenal, the subject of the candidate's second dissertation work, have been systematically studied (Dragomanova S. Neuropharmacological study of myrtenal conjugates with aminoadamantane. MU-Varna, 2024). As a result of international cooperation, the neuropharmacological effects of myrtenal conjugates with aminoadamantane have been studied for the first time, jointly with scientists from Keele University, Great Britain and from the Russian Academy of Sciences. Their potential for improving memory has been proven, without detrimental effects on the exploratory behavior of laboratory rats. The neuroprotective potential of the aminoadamantane compounds of myrtenal was established for the first time in an experimental model of dementia, due to their complex mechanisms of action - anticholinesterase, antioxidant, and neuromodulatory.

3.3.2. Newly synthesized neurotensin derivatives

(D.7.4, D.7.11, D.7.15, D.7.17, D.7.18, D.8.2 from the candidate's academic reference; A.1, A.5, A.6, B.1, B.2, B.3, B.13 from the List of participation in scientific forums)

For the first time, biological activity of 5 newly synthesized compounds has been established, of which NT2 and NT4 significantly improve learning and memory in laboratory rodents. Some of the new analogues also show promising pharmacological effects in an animal model of Parkinson's disease, by reducing dopamine reuptake.

3.4. New trends in the therapy of some metabolic and parasitic diseases

The subject of the studies are the problems related to the therapy of some parasitic diseases (D.7.10), as well as new trends in the understanding of the pathological processes in gluten intolerance (D.7.19) and the treatment of obesity (D.8.3).

3.4.1. The effectiveness of pharmacotherapy applied to the most common **intestinal helminth and protozoan infections** diagnosed in Varna region for a 10-year period (2007 ÷ 2016) was assessed. The most important reasons for unsuccessful treatment were analyzed by the candidate Stella Dragomanova and team. Cooperation between general practitioners, clinical parasitologists and, last but not least, with patients is crucial for achieving effective therapy, as well as effective control of intestinal parasitosis.

3.4.2. It has been demonstrated that **successful management of obesity** requires an integrated and multidisciplinary approach by combining different therapeutic strategies and personalized treatment. The analysis performed by the candidate shows that this approach significantly reduces the risk of cardiovascular and metabolic diseases in patients.

3.4.2. A large body of research on **gluten-related disorders (GRDs)** has been summarized over a 10-year period, with a focus on gluten intolerance. Accurate diagnostic methods, dietary counseling, and patient education are crucial to improving the quality of life.

The candidate Dr. Stella Dragomanova's reference for her scientific contributions is consistent with the published results, and I support the original and confirmatory data described in the competition documentation. The contributions in the field of experimental pharmacology testify to the exceptional research qualities of Chief Assistant Stela Dragomanova as a scientist with broad scientific interests, proficient in a variety of methodological approaches.

4. OVERALL ASSESSMENT OF THE CANDIDATE'S COMPLIANCE WITH THE MINIMUM NATIONAL REQUIREMENTS UNDER ART. 2B, AL. 2 AND 3, ACCORDING TO THE REQUIREMENTS UNDER ART. 2B, AL. 5 OF THE ACT ON THE PROVISIONS OF THE MEDICAL UNIVERSITY OF VARNA AND THE SPECIFIC REQUIREMENTS FOR THE DIRECTIONS FOR UNITS WITHOUT CLINICAL ACTIVITY, DEFINED IN THE REGULATIONS FOR ACADEMIC DEVELOPMENT AT THE MEDICAL UNIVERSITY OF VARNA

For participation in the competition, Chief Assistant Dr. Stela Dragomanova has provided a detailed list of her scientific publications and one monographic work. She is the author and co-author of over 15 scientific publications. The scientific works presented do not include those used in the defense of the ONS "Doctor". The period of publication of the articles is from 2012 to the present. Master of Pharmacy Stella Dragomanova has provided evidence of participation in a total of 5 scientific projects.

SCIENTIFICOMETRIC INDICATORS PRESENTED FOR ACCOMPANYING THE ACADEMIC POSITION "ASSOCIATE PROFESSOR", I have summarized in the following table:

SUMMARY TABLE FOR ALL INDICATORS OF Senior Assistant Professor **Dr. Stella Dragomanova** **Area 7. Health and Sports** **Professional field 7.3. Pharmacy** **Scientific specialty "Pharmacology (incl. Pharmacokinetics and Chemotherapy)"**			
GROUP OF INDICATORS	**CONTENTS**	**Number of points required by MU-Varna for "Associate Professor"**	Number of points of the candidate in the competition
A	**PhD thesis for educational degree "Doctor"**	50	50
B	**Dissertation for degree"Doctor of Science"**	**---**	**---**
C	**Habilitation thesis-monograph or 10 articles that are referenced and indexed in world-renowned databases of scientific information**	100	100
D	**Publications in the competition for Associate Professor (excluding those for the PhD degree)** ***TOTAL (indicators G5-9)*** ****mandatory minimum of 200 points.***	200	202.39
E	**Articles and reports published in scientific journals, referenced and indexed in world-renowned databases of scientific information**	80	167.11

	Minimum 80 points for non-clinical and min. 60 points for clinical specialties from indicator G-7		
F	**Citations of publications in the Associate Professor competition**	50	60
TOTAL		400	412.39

The comparative assessment of the scientometric indicators of Chief Assistant Dr. Stela Toshkova Dragomanova shows that they not only cover, but also exceed the quantitative criteria set out in the regulations of the Medical University - Varna for acquiring the academic position of "ASSOCIATE PROFESSOR", with the total number of points by groups of indicators for Chief Assistant Stela Toshkova Dragomanova being 412.39 with a required minimum of 400 points. In conclusion, my analysis of the overall scientific research activity of Chief Assistant Stela Toshkova Dragomanova shows that she is a well-established scientist with a rich scientific output, which has found a wide response in the specialized medical literature, evident from the numerous citations of her publications with a high impact factor.

Personal impressions

I have known Dr. Stela Dragomanova since 2013 and have had impressions over these years of both the quality of her work and her personal characteristics and growth. I am impressed by her organization, energy and inspiration in her research work, combined with great diligence and precision in both conducting experiments and properly presenting the results. Her personal qualities of loyalty, responsibility, innovative thinking, excellent teamwork, as well as her exceptional work capacity make her an established scientist and lecturer in the field of pharmacology and experimental neurobiology. In addition to professional competence, personal qualities are very important for a scientist and lecturer. Senior Asst. Stella Dragomanova's ability to work in a team and the opportunities for development and building both herself and the people around her testify not only to her professionalism, but also to her high moral and ethical qualities.

CONCLUSION

The documents presented prove that Chief Assistant Dr. Stela Dragomanova is a well-established specialist, expert and consultant in the scope of the scientific specialty of the competition, who manages to combine teaching and research work. Dr. Dragomanova has gradually gone through all stages of academic development, always participating actively and responsibly in the teaching and scientific activities of various units at the University.

Dr. Stela Toshkova Dragomanova is a well-established and respected teacher and in-depth researcher, with valuable achievements for teaching, science and practice. She fully meets all academic and university criteria for holding the academic position of "ASSOCIATE PROFESSOR".

Based on the positive assessment of her teaching activities and the high significance of her research publications, I strongly support the awarding of the academic position "ASSOCIATE PROFESSOR" to Chief Assistant Dr. Stela Toshkova Dragomanova in the field of higher education 7. Health and Sports; Professional field 7.3. Pharmacy; Scientific specialty "Pharmacology (incl. Pharmacokinetics and Chemotherapy)", for the needs of the Department "Pharmacology, Toxicology and Pharmacotherapy" of the Faculty of Pharmacy at the Medical University - Varna.

On the basis of the The Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations for academic development of MU-Varna, I propose to the members of the HONORABLE SCIENTIFIC JURY to vote positively for the award of the academic position "Associate Professor" to Chief Assistant Dr. Stela Toshkova Dragomanova.

Sofia, 18.02.2025 Reviewer:

Prof. Lyubka Pavlova Tancheva, MD, PhD