

EVALUATION STATEMENT

by Assoc. Prof. Dr. Meglena Valdemarova Angelova, MD
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Regarding the dissertation for the acquisition of the Educational and Scientific Degree "Doctor" in the scientific specialty "Anatomy, Histology and Cytology", professional field "7.1 Medicine", field of higher education "7. Health Care and Sports" by **Dr. Iskren Boyanov Velikov**, a regular PhD student at the Department of Anatomy and Cell Biology, Faculty of Medicine, Medical University "Prof. Dr. Paraskev Stoyanov" – Varna in the doctoral program "Anatomy, Histology and Cytology", on the topic: **"Role of transcription factor Zbtb20 in the development of the cerebellum"** with scientific supervisor Prof. Dr. Irina Ivanova Stoyanova-van Der Laan, MD

Defense procedure:

As a member of the Scientific Jury in accordance with Order No. R-109-222/28.04.2025 of the Rector of the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna, based on a proposal from the Faculty Council of the Faculty of Medicine, on the basis of the Protocol of the meeting of the Scientific Jury No. 1/ 08.05.2025., I was assigned to prepare an academic evaluation statement on the procedure for public defense of a dissertation on the topic: **"Role of transcription factor Zbtb20 in the development of the cerebellum"** for the acquisition of the Educational and Scientific Degree (ESD) "Doctor" in area of higher education 7. Health and Sports, professional field "7.1. Medicine", doctoral program "Anatomy, Histology and Cytology". The author of the dissertation is **Dr. Iskren Boyanov Velikov**, Department of Anatomy and Cell Biology, Faculty of Medicine, Medical University "Prof. Dr. Paraskev Stoyanov" - Varna.

1. Subject of evaluation:

In accordance with the Procedure for acquiring the ESD "doctor" at MU - Varna, the candidate has submitted a set of documents on paper and electronic media, which includes the following documents:

1. Dissertation.
2. Abstract of the Dissertation.
3. Application to the Rector of MU-Varna
4. CV.
5. Copy of Higher Education Diploma.
6. Order for enrollment of the PhD student in the doctoral program at MU-Varna signed by the Rector of MU-Varna.
7. Protocol of the departmental council meeting for the completion of the doctoral minimum.
8. Protocol of the departmental council meeting for discharge with the Right to Defend and composition of the scientific jury.
9. Order for discharging the PhD student from the doctoral program at MU - Varna signed by the Rector of MU-Varna.
10. Declaration of Originality of the attached documents.
11. List of scientific publications related to the topic of the dissertation.
12. The scientific publications themselves related to the topic of the dissertation.
13. Declaration of authenticity of the attached documents.
14. Declaration of active profiles in scientific databases.

15. Similarity report prepared by the Publishing Department at MU - Varna
16. Academic reference for active scientific profiles in Google Scholar and Orcid, issued by the MU - Varna library.

The PhD student has submitted one publication, of which he is the sole author, and six congress participations related to the dissertation.

The submitted documents meet the requirements of the Law on Development of the Academic Staff in the Republic of Bulgaria and the Regulations of the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna for admission to public defense for the acquisition of the ESD "Doctor"

Structure of the dissertation

The submitted dissertation is developed on 141 pages and is distributed respectively: Introduction and literature review - 30 pages; Aim and objectives - 2 pages; Materials and methods - 3 pages; Results - 56 pages; Discussion - 16 pages; Findings - 2 pages; Contributions - 1 page; Conclusion - 2 pages. The bibliography includes 254 literary sources, most of which are from the last 10-15 years.

The structure and volume of the dissertation work are in accordance with the norms for awarding the ESD "Doctor"

Biographical data of the dissertation candidate

Dr. Iskren Boyanov Velikov was born in Razgrad in 1983 and in 2001 graduated from the Natural Sciences and Mathematics Gymnasium "Academician Nikola Obreshkov" - Razgrad. In 2007, he graduated with honors in "Dental Medicine" from the Medical University - Plovdiv. During the period 2008-2009, he worked as a dental doctor in the Rural Health Service of Razgrad District. From December 2008 to September 2009, he was an assistant professor at the Department of Anatomy, Histology and Embryology at the Medical University - Plovdiv. From 2009 to the present, he is an assistant professor at the Department of Anatomy and Cell Biology at the Medical University - Varna. In 2013, he acquired a specialty in "Anatomy, Histology and Cytology". Since February 2019 is a regular PhD student at the Department of Anatomy and Cell Biology and was discharged with the right to defend in 2024.

Dr. Velikov is fluent in English. He teaches students from all faculties of the Medical University of Varna, and also leads classes in the English-language programs.

He is a member of the Bulgarian Anatomical Society.

Relevance of the topic and appropriateness of the set goals and objectives

The cerebellum contains over 70% of the neurons of the central nervous system. It is an important coordination center, associated not only with control over the motor system, but also with processes of memory, learning and even emotions. The development of cerebellar tumors is associated with disorders in the proliferation and differentiation of cerebellar cells. This is the reason why research on the molecular mechanisms underlying these processes, as well as in the development of the cerebellum during the pre- and postnatal period, is essential for enriching knowledge in the field of neurogenesis and neuroscience in general.

The topic of the dissertation is relevant. The goals and objectives are clearly formulated and logically connected.

Knowledge of the problem

The literature review demonstrates a good knowledge of the scientific literature and reflects the relevance of the chosen topic. It is methodically structured and highly informative, with the various transcription factors under study being consistently and in detail explained. Their role in neurogenesis is emphasized according to the data accumulated to date, with over 250 bibliographic sources cited.

Research methodology

The research described in the dissertation was carried out on tissues of mutant and wild-type mice. The preparation and processing of the tissues, the methods for qualification, quantification and analysis of the data are described precisely and in detail.

The selected methods correspond to the set goals and objectives and are selected in a way that is a prerequisite for obtaining reliable and credible results.

Characteristics and evaluation of the dissertation work

The results are illustrated with an impressive number of microscopic images of extremely high quality, as well as with graphs reflecting the obtained data. The expression of Zbtb20 in different populations of cerebellar cells is presented. The development of the cerebellar folia, the cerebellar cortex with its layers, and the different cell types in the two groups of experimental animals are compared in detail. The presented data are supported by the corresponding images and analysis, which proves the correct choice of work methods.

The discussion, comparing the results of Dr. Velikov's work with literature data, emphasizes the relevance, importance and volume of the study. The presented results are of high scientific value, allowing an impressive number of conclusions to be drawn. They correspond to the tasks set, being precisely and correctly formulated

Contributions and significance of the work for science and practice

The presented scientific work is an original one that contributes to clarifying the role of Zbtb20 in the development of the cerebellum. The scale of the dissertation work is also reflected in the original contributions of the dissertation, which are eight in number and which I consider sufficient for the acquisition of the ESD "Doctor".

Assessment of accompanying publications

To the documentation for the procedure for acquiring the ESD "Doctor" the doctoral candidate has attached one publication, supplemented by six participations in scientific forums on the topic. I recommend that the unpublished results be offered to an international and refereed scientific journal.

Personal participation of the author

The presented work clearly shows that it is the personal work of the doctoral candidate and the results obtained, as well as the formulated contributions, are his personal merit. The recognition and gratitude of Dr. Velikov for the help and assistance from the scientific supervisor, colleagues and laboratory assistants is praiseworthy.

10. Abstract assessment

The abstract meets the requirements and summarizes the main results described in the dissertation.

11. Critical notes

The dissertation work is written competently in compliance with the language norms, and is easy and pleasant to read. The lack of figures and diagrams in the chapter "Literature Review" is noticeable, which, however, does not reduce the value of the work.

CONCLUSION

The dissertation work of Dr Iskren Boyanov Velikov from the Department of Anatomy and Cell Biology of the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna is dedicated to an up-to-date and interesting medico-biological problem. The doctoral candidate has presented a number of original results, scientifically significant findings and conclusions. I believe that the dissertation work fully meets the requirements of the Law on Accademic Staff Development of the Republic of Bulgaria, the Regulations for its Application and the Regulations for the development of the academic staff at the Medical University "Prof. Dr. P. Stoyanov" - Varna for the acquisition of the ESD "Doctor". That is why I vote **POSITIVELY** and take the liberty of recommending the same to the other members of the esteemed Scientific Jury, determined by Order No. R-109-222/28.04.2025 of the Rector of the Medical University "Prof. Dr. P. Stoyanov" - Varna.

Prepared an evaluation statement:

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04. 06. 2025
Varna

Заличено на основание чл. 5,
§1, б. „В“ от Регламент (ЕС)
2016/679