



TO the Chairman of the Scientific Jury, appointed at the First Meeting of the Scientific Jury of 25.03.2025 on the basis of Order No. **R-109-149/13.03.2025** of the Rector of the Medical University of Varna

OPINION

SUBJECT: Dissertation for **the acquisition of the educational and scientific degree "Doctor"** by Dr. Radi Evgeniev Lukanov, doctoral student at the Second Department of Internal Medicine, Hematology Training Sector, Faculty of Medicine, Medical University "Prof. Dr. Paraskev Stoyanov" - Varna, on the topic *"Biomarkers for a personalized approach in the selection of treatment for patients with myeloma disease"* in the field of higher education 7. Health and Sports, professional field 7.1. Medicine and **doctoral program "Hematology and Blood Transfusion"**, with scientific supervisor Prof. Dr. Ilina Dimitrova Micheva, MD, - Head of the Hematology Training Sector at the Second Department of Internal Medicine, Faculty of Medicine, Medical University "Prof. Dr. Paraskev Stoyanov" - Varna.

PREPARED BY OPINION: Assoc. Prof. Dr. Trifon Georgiev Chervenkov, D.B., Associate Professor of Clinical Immunology, Head of the Department of Medical Genetics, Faculty of Medicine, Medical University "Prof. Dr. Paraskev Stoyanov" - Varna, *Member of the Scientific Jury* according to Order No. **R-109-149/13.03.2025** of the Rector of the Medical University - Varna and appointed as *Chairman, internal member of the Scientific Jury, preparing an opinion* according to Protocol No. 1 of 25.03.2025 of the First Absentee Meeting of the Scientific Jury.

I. General data about the dissertation work of Dr. Radi Evgeniev Lukanov.

Dr. Lukanov's dissertation is 112 pages long and is structurally clear and logically arranged. It contains the following main sections: introduction, literature review, goals and objectives, materials and methods, results, discussion, conclusion, contributions and bibliography. The presented data are supported by 34 figures and 15 tables, which clearly visualize and support the presented results.

II. Assessment of the relevance of the topic

Multiple myeloma (MM) is a serious and complex oncohematological disease, with increasing morbidity and serious prognosis. Due to its high heterogeneity, the development of more accurate and



reliable biomarkers is necessary, which would allow a personalized approach in the selection of therapy, and microRNA molecules have been evaluated in recent years as potentially highly informative biomarkers. In this regard, the topic of the dissertation is extremely relevant and significant, both from a scientific and practical point of view.

III. Evaluation of the literature review

The literature review is detailed, up-to-date and in-depth. The author clearly presents the state of knowledge about the pathogenesis, diagnostic methods and modern therapeutic approaches in multiple myeloma. Particular attention is paid to the role of microRNAs as diagnostic and prognostic biomarkers. The literature sources used are numerous, up-to-date and cover all important aspects of the disease.

IV. Evaluation of the set goals and objectives

The goals of the dissertation are clearly and precisely defined. The tasks that arise from these goals are specific, logical and clearly formulated, including a detailed study of selected microRNAs in different groups of patients with multiple myeloma, as well as an assessment of their diagnostic and prognostic value.

V. Assessment of the contingent and methods used

The contingent is appropriately selected, including well-defined groups of patients and a control group, which ensure representativeness and reliability of the results obtained. The applied laboratory methods, including for the analysis of microRNAs (RT- qPCR) and statistical methods for analysis, are appropriate, modern and described in sufficient detail to reproduce the results.

VI. Evaluation of the presented results and discussion

The results are presented clearly and in detail, accompanied by appropriate graphs and tables. The author performs a thorough comparative and correlation analysis of the selected microRNAs with clinical and laboratory parameters of the patients. The discussion is comprehensive and analytical, presenting the results in the context of the existing literature and emphasizing their contribution to practice.



VII. Evaluation of the contributions of the dissertation

The dissertation offers significant original and applied contributions, especially in the identification of novel and reliable microRNA biomarkers, such as miR-199a-5p, miR-126-5p, miR-497-5p and miR-214-3p, with the potential to personalize the therapeutic approach in patients with MM. These biomarkers can be applied to optimize diagnostic and prognostic assessment, which is of great importance for clinical practice.

Conclusion

The dissertation work of Dr. Radi Evgeniev Lukanov examines a current and scientifically significant topic with important practical applications. In my opinion, this is a stable scientific work and meets the requirements of the ZRAS of the Republic of Bulgaria and the Regulations for RAS of MU - Varna for acquiring the ONS "Doctor" and I give my positive assessment for awarding the scientific and educational degree "Doctor" in the field of higher education 7. "Healthcare and Sports", professional direction 7.1. Medicine in the scientific specialty "Hematology and Blood Transfusion" to Dr. Radi Evgeniev Lukanov.

14/05/2025

/ Assoc. Dr. Trifon Chervenkov, Ph.D./