

Jury Member Report – Doctor of Philosophy thesis.

Name of Candidate: Mariia Vlasenok

PhD Program: Life Sciences

Title of Thesis: Transcriptomic analysis of the interaction between pre-mRNA splicing and intronic polyadenylation

Supervisor: Associate Professor Dmitri Pervouchine

Name of the Reviewer: Assistant Professor Ekaterina Khrameeva

I confirm the absence of any conflict of interest

Date: 27-11-2023

The purpose of this report is to obtain an independent review from the members of PhD defense Jury before the thesis defense. The members of PhD defense Jury are asked to submit signed copy of the report at least 30 days prior the thesis defense. The Reviewers are asked to bring a copy of the completed report to the thesis defense and to discuss the contents of each report with each other before the thesis defense.

If the reviewers have any queries about the thesis which they wish to raise in advance, please contact the Chair of the Jury.

Reviewer's Report

Reviewers report should contain the following items:

- Brief evaluation of the thesis quality and overall structure of the dissertation.

The thesis has classical structure and contains Introduction, Background, Thesis Objectives, Materials and methods, Results, Discussion, Conclusion, and Bibliography sections. The Background section presents a comprehensive description of existing knowledge on polyadenylation and splicing, as well as on their possible interplay. It is well written and contains all the details necessary for understanding of the research presented in next chapters. The contents of other sections cover three papers published by Mariia Vlasenok. The quality of research in these publications is very high, which is supported by the high impact of journals in which they were published. The quality of text in the thesis is also very high. The research is described clearly and with enough detail.

- The relevance of the topic of dissertation work to its actual content

The topic of dissertation work is relevant to its actual content because the thesis covers the link between alternative splicing and polyadenylation.

- The relevance of the methods used in the dissertation

Methods used in the thesis are relevant and applied correctly, to my best knowledge. The used methods are well described and presented with enough details.

- The scientific significance of the results obtained and their compliance with the international level and current state of the art

The obtained results are of high scientific significance, as can be seen from the publications. Both alternative splicing and polyadenylation are important processes in the living cells that are crucial for cell functioning. Yet, the link between them has not been studied in detail before Mariia's work. Her results significantly extend current understanding of alternative splicing mechanism in general, and its dynamic competition with polyadenylation.

- The relevance of the obtained results to applications (if applicable)
- The quality of publications

High enough to pass the PhD program requirements.

The summary of issues to be addressed before/during the thesis defense

The thesis presents an excellent research work and is very clearly written, therefore I have no suggestions on possible improvements of its contents. All my concerns and suggestions on possible improvements have already been addressed at the pre-defence stage, I have no further questions regarding the scientific content or presentation of results, and therefore can recommend this thesis for defense as is.

Provisional Recommendation

I recommend that the candidate should defend the thesis by means of a formal thesis defense

I recommend that the candidate should defend the thesis by means of a formal thesis defense only after appropriate changes would be introduced in candidate's thesis according to the recommendations of the present report

The thesis is not acceptable and I recommend that the candidate be exempt from the formal thesis defense