Skoltech
Skolkovo Institute of Science and Technology

Jury Member Report – Doctor of Philosophy thesis.

Name of Candidate: Marina Kalinina

PhD Program: Life Sciences

Title of Thesis: Long-range complementary interactions in human pre-mRNAs and their implications in splicing

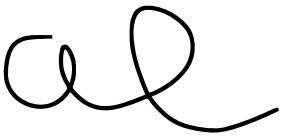
Supervisor: Professor Olga Dontsova

Co-supervisors:

Assistant Professor Dmitri Pervouchine

Dr. Dmitry Skvortsov, Lomonosov Moscow State University

Name of the Reviewer: Alain Laederach

I confirm the absence of any conflict of interest 	**Date: 29-10-2021**

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 relevance of the topic of dissertation work to its actual content
- The relevance of the methods used in the dissertation
- The scientific significance of the results obtained and their compliance with the international level and current state of the art
- The relevance of the obtained results to applications (if applicable)
- The quality of publications

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

In this very high quality thesis by doctoral student Marina Kalinina a series of investigations into the alternative structures controlling splicing in long-range pre-mRNAs is presented. The thesis is based on a recent, first author publication by M. Kalinina in Nucleic Acids Reseach. In this very nice study, the authors presented a series of computational analyses and validating experiments demonstrating long-range interactions in pre-mRNAs largely control alternative splicing in the human ATE1 gene. In particular the authors find that alternative structures play an important role and that these are conserved. All together this work presents a series of interesting and novel findings that significantly contribute to the field. As such the work is deemed excellent and meritorious of the doctoral degree.

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*