



Přírodovědecká
fakulta
Faculty
of Science

Jihočeská univerzita
v Českých Budějovicích
University of South Bohemia
in České Budějovice

SUPERVISOR'S STATEMENT ON BACHELOR/DIPLOMA * THESIS

Name of the student: Ricarda MARKO
Study program: Biological Chemistry
Department/Institute: Department of Chemistry
Thesis title: Counteracting constitutive activity of Orai1 with an H171Y mutation

Supervisor: Mag. Dr. Irene FRISCHAUF MLBT
Supervisor's affiliation: Johannes Kepler University of Linz, Austria, Institute of Biophysics

	Point scale ¹	Points
(1) FORMAL REQUIREMENTS		
Formal and graphical quality of the thesis	0-3	3
Ability to work with literature	0-3	3
Language and stylistics	0-3	2
Formal requirements – points in total		
(2) PRACTICAL REQUIREMENTS		
Fulfillment of the aims	0-3	3
Ability to understand the results, their interpretation, and clarity of the results, discussion, and conclusions	0-3	3
Discussion quality – interpretation of results and their discussion with the literature	0-3	3
Experimental difficulty of the thesis, independence in experimental work	0-3	2
Contribution of the thesis to the knowledge in the field and the possibility to publish the results (after eventual supplementary experiments)	0-3	3
Practical requirements – points in total		
POINTS IN TOTAL (MAX/AWARDED)		
	24	22

* Choose one

¹ Mark as: 0-unsatisfactory, 1-satisfactory, 2-average, 3-excellent.

Comments of the supervisor on the student and the thesis:

Mrs. MARKO focused on investigating structures of the channel protein Orai1. Together with STIM1, this protein builds the CRAC channel, known to play a crucial role in various common diseases like allergies. Her specific task was to confirm a possible structural rearrangement in constitutively open Orai1 channels and an alteration upon the induction of a H171Y mutation. The target is to shed further light on a putative functional impact of these structures on the channel's gating and selectivity mechanisms, leading to future therapeutic strategies for treating CRAC dependent diseases.

During her bachelor thesis, Mrs. MARKO was working with various techniques like:

- Methods in molecular analysis (PCR, gelelectrophoresis, DNA preparation, cloning, sequencing)
- Biochemical analysis methods (protein expression, protein purification, cysteine-crosslinking, PAGE, Western-blot, immunodetection)
- Cell culture (transient and stable transfections, electroporation)
- Analysis and evaluation of data

Mrs. MARKO was always carrying out her tasks to our complete satisfaction. She proved as a really dedicated and reliable colleague, who is fully engaged in her research goals. Her mode of operation is highly careful and diligent.

Within her time at our institute she has acquired expertise in the field of calcium signalling, comprising molecular biology and biochemical techniques. During all time, she was appreciated by her supervisors and colleagues, her personal manner was always correct.

The obtained thesis is very well structured and gives novel insights into structural rearrangements taking place during channel opening and closing.

Mrs. MARKO is highly motivated in gaining further expertise in research. I am fully convinced of her capability and dedication to engage in research tasks and give her my absolute recommendation.

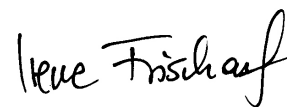
Conclusion:

In conclusion, I

r e c o m m e n d

the thesis for the defense.

In Linz date **04.01.2022**



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signature