

CHARLES UNIVERSITY
FACULTY OF PHARMACY IN HRADEC KRALOVE
Department: Department of Pharmacology and Toxicology

Master's degree program in Pharmacy
Opponent's review of Master's thesis

Student's name: Maria Olenic

Mentor of the thesis: Prof. PharmDr. Petr Pávek, PhD.

Year of the thesis
defense: 2017

Opponent of the thesis: Mgr. Lucie Hyršová

Title of the thesis:
**Write or insert Development of CRISPR-Cas9 based technology for genetic
modification of *Lactococcus lactis* subsp. *cremoris***

Formal comments: number of pages: 34, number of figures: 30, number of tables: 1, number of references: 19.

Type of work: Experimental work

- a) The aim of the thesis is: Fulfilled
- b) Language and graphic level: Very good
- c) Processing of the theory: Good
- d) Methods description: Very good
- e) Results description: Excellent
- f) Discussion and conclusions: Very good

I recommend Diploma thesis for the recognition as Rigorous thesis .

Opponent's comments:

Student Maria Olenic worked on her diploma thesis during her study stay at Jožef Stefan Institute in Ljubljana. The theme of the thesis is extremely interesting, used methods are very difficult and sophisticated. Unfortunately, the formal aspect of the thesis is not well. The arrangement of chapters is not in concordance with the guidelines published by the Department of Pharmacology and Toxicology. Materials and methods are briefly described at the end of the thesis, after discussion. Chapter Conclusions is missing. Theoretical part is a mixture of theory and methods. Moreover, the thesis contains several typing errors. Explanation of abbreviations in Figure 6 is missing both under the picture and in the text. Description of Table 1 should be before the table, not behind it.

Questions:

Can you compare CRISPR technology in *L. Lactis* and in human cells? Is there any difference?

Are there any alternative methods to CRISPR/Cas9 in L.Lactis?

Evaluation of Master's thesis: Very good

Recommendations for the thesis defense: Recommended

In Hradec Kralove 28. 8. 2017

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Opponent's signature