

CHARLES UNIVERSITY
FACULTY OF PHARMACY IN HRADEC KRALOVE

Department: Pharmaceutical technology Master's degree program in Pharmacy

Opponent's review of Master's thesis

Student's name: Khalied Mahrous Farid Bataalla

Mentor of the thesis: PharmDr. Andrej Kováčik, Ph.D.

Year of the thesis

Opponent of the thesis: PharmDr. Barbora Vraníková, Ph.D.

defense: 2020

Title of the thesis:

Effect of Sphingosine Phosphorylcholine on the stratum corneum Permeability

Formal comments: number of pages: 42, number of figures: 13, number of tables: 1, number of references: 75.

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: Very good
- d) Methods description: Very good
- e) Results description: Very good
- f) Discussion and conclusions: Excellent

I recommend Diploma thesis for the recognition as Rigorous thesis .

Opponent's comments:

Theoretical part of the presented diploma thesis describes the skin and its function with the focus on stratum corneum and its composition. In experimental part the effect of the sphingosine phosphorylcholine on the stratum corneum permeability was studied. In my opinion, the diploma thesis of Khalied Mahrous Farid Bataalla fulfill all criteria required for this type of thesis and, therefore, I recommend it for defence.

Questions:

Formal comments:

- there are some smaller grammar, formal and spelling mistakes throughout the text
- I would recommend to have the whole text in black color (titles are made in blue)
- I would recommend to minimize the use of bold and italic style in the thesis
- figures should be placed directly behind the paragraph that mentions them for the first time
- Figure 7 is not mentioned in the text
- poor resolution of some figures (e.g. Figure 5)
- there are mentioned some abbreviations that are used only once - in my opinion it is not necessary to introduce such abbreviations
- in the method section, I am missing some range for temperature - e.g. 32 +/- 0.5 °C
- I am missing the information about the repetitions of experiments in the methods section

- website references are not complete - access date is missing

Questions:

Page 23: Why the equilibration of the samples (temperature) differs for the sample preparation and for the High Performance Thin Layer Chromatography? (overnight x 3 hours)

Page 23: Is the mixture of propylene glycol and ethanol best solvent for application of sphingosine phosphorylcholine as it affects the skin permeability as well?

Page 28, 29: The fold change is presented in Figures 9 and 10. In my opinion, there shouldn't be any units. Do you agree? Why?

Page 29: In the discussion part dealing with electric impedance, there are mentioned different units for obtained values than in following Figure. Can you specify which units are correct?

Page 30: Can you specify what the statement "after mathematical correction in Excel" means?

Can you explain why the n value given for the Figures differs for each measured parameter?

Evaluation of Master's thesis: Very good

Recommendations for the thesis defense: Recommended

In Hradec Kralove 18.05.2020

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Opponent's signature