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: Omar Mahrous Farid Bataalla

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

Opponent of the thesis: PharmDr. Petra Svačinová, Ph.D.

Year of the thesis defense: 2020

Title of the thesis:

Effect of Glukosyl Sphingosine on the stratum corneum Permeability

---

Formal comments: number of pages: 41, number of figures: 13, number of tables: 0, number of references: 64.

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: Excellent

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 thesis describes the human skin composition with the focuse on different skin layers and their function, composition of stratum corneum and skin ceramides. In experimental part the effect of glucosyl sphingosine on the stratum corneum permeability was studied. Result are discussed in the context of available literature.

Questions:
Formal comments:
The resolution of some figures is poor (e.g. Figure 8, 9)
There are some formal mistakes and typing errors in the text
Figure 5 is not mentioned in the text
In my opinion, the description of measurement procedure in discussion is not necessary. Most of the information is in the chapter Materials and methods. On the contrary, some informations mentioned in discussion should be included in methods.
As the results should be useful for further study of some skin diseases, I would expected more information about the role of Cer and GSP in this problems.
In my opinion, there shouldn´t be any units in the case of fold change (Figure 11)
I am missing the access date in website references

Questions:
How many samples of stratum corneum were prepared for the evaluation? How many repetitions did you measure?
Page 25: The average molar ratio of GSP was found to be 23.35 %. What does it mean? Why is this information importatnt?
Page 26: You stated, that after the application of solvents/solution the impedance increased. In Figure 11B, the black/blue-white bars indicate decrease of impedance. Can you specify it?
IND and TH were used in suspension. Can particle size of model drugs or the concentration of suspension affect permeation results?

Evaluation of Master´s thesis: Very good

Recommendations for the thesis defense: Recommended

In Hradec Kralove 22.5.2020 ……

Opponent´s signature