

Reviewer assessment

Author of thesis: Meriam Kvashylava

Title: Proteolytic control of transcriptional repressor in *Arabidopsis thaliana*

Type of thesis: Bachelor of Science

Evaluation criteria		Grades						
		A	B	C	D	E	F	Non-evaluable
1	Scope of thesis, chapters proportion	X						
2	Review quality (i.e. quality and accuracy, number of references used)	X						
3	Objectives achievement		X					
4	Accuracy and completeness of figures and tables legends (i.e. understandability, consistency, abbreviation explanation, correct using of units)				X			
5	Accuracy of references using (i.e. absence of references quoted in text and list of references, formal stylistic consistency)				X			
6	Accuracy of summary in Czech and English	X						
7	Graphic quality of text and figures				X			
8	Language and stylistic quality, using of valid/ standard terminology and nomenclature	X						
9	Choice of appropriate experimental methods	X						
10	Comprehensibility and conciseness of used methods description	X						
11	Quality of experimental data processing	X						
12	Results interpretation			X				
13	Discussion (results summary and its implementation in the context of current research/knowledge)	X						

Note1: if impossible to apply, use "non-evaluable"

Note2: mark with "X"

Note3: final grade is based only on evaluable (A-F) items

Final Grade (A-F)	C
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Please, attach your comments and questions as well as reasons for your evaluation at the next page (pages)

Conclusion: the thesis is recommended for defence

Olomouc , date: 23.8.2022

Signature:

Michela Alzbeta

MICHAELA ALZBETA

In the theoretical part, the student Meriam Kvashylava summarized the regulation of gene expression based on the transcription factor degradation and subsequent influence on the development of *Arabidopsis thaliana*. The individual chapters are written sequentially in a comprehensible manner. The student included pictures in the text that help to understand the given topic.

In the experimental part, the student described individual methods in detail with the regard to the reproducibility of the experiments. Further, the student summarized all results and supported them with figures and charts. Unfortunately, some figures are lacking better indications and scales. Also, from charts 2 and 3, the time intervals and the number of plants tested are not clear (the student did not refer to the tables in the attachment). Within the references, formal stylistic consistency is used. On the other hand, there are several articles that are not quoted in the text. Also, some discrepancies between the information provided in the reference and its quote in the text were found (examples are provided below).

In summary, the bachelor thesis from Meriam Kvashylava provides the foundation for further research on the E3 ligase and its impact on the regulation of gene expression in *Arabidopsis thaliana*. Despite the mentioned shortcomings and some misspells that can be eliminated in the future, the scope of the work meets the requirements set for the writing of a bachelor's thesis. I recommend the bachelor thesis for defence. I evaluate it with a final grade of C.

Misspells/mistakes:

Page 9 and 10 – monoobiquitination; polyubiquitinalisation

Page 9 and 10 – Repeated sentence “Monoobiquitination is the process of attaching...”

Page 11 – ubiuvitin; monoobiquitination

The student is not using italics when she is referring to mutant lines.

Concerning the pictures:

Figures 3, 5, and 8 – low quality

Figures 6, 7, 8, and 10 – lack the scale.

Figures 6, 8, and 10 – It would be better to include indications of the mutations directly in the figures.

The student does not refer to tables and pictures in the attachment (attachments 1 and 2, attachment 7). Attachment 5-9 – It is hard to distinguish samples from controls and which control is used in a particular picture.

Concerning the references:

References, which are not quoted in the text:

Bernassola et al. 2008; Cadwell and Coscoy 2005; Dubouzet et al. 2003; Kimura and Tanaka 2010;

Myung et al. 2001; Riechmann et al 2000; Stirnberg et al. 2022

References, which are not in the reference list:

Hima et al., 2011; Wang and Deng, 2011

Discrepancies between the information provided in the reference and its quote in the text:

(Weissman et al. 2004) <-> Weissman I. L. (2000)

(Stewart et al. 2016) <-> Stewart, M. Ritterhoff, T., Klevit, R. et al.

(Nakano et al. 2009) <-> There is the year 2006 in the references.

(Hoege et al. 2003) <-> There is the year 2002 in the references.

(Latchman, 1997) <-> There is the year 1993 in the references.

Reference “Somers D. E., Schultz, T. F., Milnamow, M. and Kay, S. A. (2000)” lacks the name of the article.

I have the following questions regarding the submitted bachelor thesis:

1. Can you explain the principle and setup of CAPS analysis? Why is the final volume 4 ml? Why are you using the GoTaq Flexi buffer?
2. Can you clarify in which time intervals regeneration of shoots and pin structures were observed?