

Evaluation of bachelor thesis	
advisor's assessment <u>reader's assessment</u>	Name of evaluator: Mgr. Bianka Porubská <hr/> Date: 4.9.2019
Author: Kamila Matajová	
Title of thesis: The role of monoamines in the immune system regulation during infection	
<u>The work is literary research as specified in the published requirements (rules)</u> The work also contains its own results.	
Objectives of the work (subject of research, working hypothesis...) Aim of the thesis was to summarize mechanisms by which monoamines regulate immune system during infection and to compare this regulation in mammals and birds.	
Structure of the work: The thesis is divided into 8 chapters and contains Abstract, List of abbreviations, Introduction, core of the thesis, Conclusion and References.	
Are sufficient literary resources used and properly cited in the work? Did the author use any relevant data from literary sources in the research? There are 139 citations in the thesis cited in proper format. 90 citations are primary articles, unfortunately, only 7 are less than 5 years old. Author used 7 books, cited properly, but a book from Nestler et al., (2009) was cited 13 times in the thesis which may impose that some chapters are inspired by this book. Similarly, Abbas at al., (2012) was cited 4 times. Author used 39 review articles which accounts for one third of all citations and only 10 are less than 5 years old. A significant number of review articles are older than 15 years (two of them are from year 1979). Overall literature on which this thesis is based is rather outdated which makes it seem not actual. In some cases, author cited an article from which it is impossible to extract the information which is actually used (for example page 10, chapter 2.2.1.2 Impact of epinephrine on dendritic cells... author cites Laouini et al., (2003) after statement that epinephrine enhances release of IL-10 by dendritic cells, but epinephrine is not mentioned once in the whole paper, which is about the role of IL-10 in Th2 responses during allergic dermatitis in mice, or page 24, chapter 6.1.2 Effect of histamine on dendritic cells, author cites Itano and Jenkins, (2003) after statement that histamine modulates cytokine secretion and mobilization of dendritic cells to the lymph nodes and therefore participates in T lymphocyte activation, but this is a review about antigen presentation in general and again histamine is not mentioned once here).	

Names of some authors are spelled incorrectly, such as “Mcclorkle” (page 18) – the name is with capital “C” or “Consentino” (page 15)- author’s name is Cosentino (without first “n”).

If the work contains its own research results (beyond requirements), are these results obtained, evaluated and discussed in an adequate manner?

The thesis contains no original research.

Formal level of work (visual documentation, graphics, text, quality of writing):

The thesis is written in English (I assume because of the supervisor), what I really appreciate. There are some grammar mistakes and some sentences are hard to understand which makes paragraphs unclear (f.e. page 22, third paragraph, “The findings presented show that melatonin...” or page 24, “...the production of IL-12 of human dendritic cells was reduced by...” should be in my opinion written differently (production of IL-12 by human dendritic cells)). There are statements in the thesis which are not in an agreement with cited literature (f.e. page 14, the last paragraph of chapter 3.2 – haloperidol is declared by author as an agonist of D2 receptor, but it is an antagonist, I suppose author had in mind not haloperidol but quinpirole as it is used in cited research paper, or page 22, chapter 5.3 Melatonin and the avian immune system, author stated that H/L ratio was elevated in chicken injected with melatonin during dark period, but in cited research paper the elevation occurred in the animals exposed to melatonin in the light period). There are 9 pictures in the thesis cited properly and author accurately refers to them in the text, but it would be appropriate to give them at least a short title and then the description. In the description of Figure 4, page 10 author states that epinephrine stimulates the expression of “MHC II-TCRs” which are two different molecules expressed on two different cell types, TCR is on T lymphocytes. There is mistake in List of abbreviations – “TGF- tumor growth factor”, it is transforming growth factor. There are couple of mistakes in explanations of some abbreviations on page 1, first paragraph, such as “NK cells- nature killer cells”, it is natural killer cells, or “TNF- tumour-necrosis alpha”, it is tumor-necrosis factor alpha.

Fulfillment of the objectives of work and overall evaluation:

Aim of the thesis was fulfilled and summarized in the chapter Conclusion. Unfortunately, the text of the thesis contains formal and factual mistakes, which makes it hard to read and understand. The topic of the thesis is rather broad and therefore there was a need for common introduction for each bigger chapter which makes it long and book-like. It would be interesting if the topic would be more specific, maybe just about one or two monoamines but examined on a deeper level using more recent literature and put these findings together also in a context of stress or well-being.

Questions and comments of the reader:

In the thesis author summarized a big amount of literature but for future I would rather consider to use less and read it precisely. Some of the chapters have no bigger connection to other parts of the text so I would cut them down to one or two sentences. For example, chapter 6.1.1 is about the effect of LPS on histamine production by mast cells and eosinophils, which is not one of the aims of the thesis, the aim was to examine monoamines (histamine) in the context of their action on immune system.

Questions:

1. There are distinct families of receptors. For example, dopamine has 2 receptor families and you refer to them in the thesis in a way which implies differences in signaling cascades between them, but you are not further discussing this in the text itself. Can you pick at least one monoamine from your thesis and explain the main differences in signaling and cell expression of its receptor families?
2. In chapter 1.2.1 you are listing some inducers of immune reaction commonly used in research, such as LPS or SRBC. Can you elaborate on their mechanism of action and compare target cell types, receptors or specific immune responses triggered by them?

Recommended grade of the advisor or reader:

excellent very good good failed

Signature of advisor/reader:

Instructions for completing the form:

- We ask readers and advisors to be as brief and concise as possible in their commentary regarding specific aspects of the work (keeping within the allotted space). Sections in bold are a required part of the evaluation.