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Statement to the Martina Aistleitner bachelor thesis:

The bachelor thesis "Cytotoxicity screen of the acyclic nucleoside phosphonates against bloodstream stage of Trypanosoma brucei and validation of their putative target hypoxanthine/xanthine/guanine phosphoribosyltransferase" by Martina Aistleitner has 40 pages and about 30 references.

There were three aims declared and all of them were successfully accomplished. Martina was able to deal with cytotoxicity fluorescent assay essential for acyclic nucleoside phosphonates toxicity testing. She was also able to grow blood form of *Trypanosoma brucei*. She successfully performed PCR, DNA gel electrophoresis, plasmid transformation and isolation, and transfection of bloodstream *T. brucei.*

The methodology of the experiment was chosen properly and also the experimental work is very well-planned and accomplished.

Despite this study seems to me very robust by methods, it seems not so strong from formal point of view. In addition, I have to point out the poor handling references. In my opinion, a bachelor thesis is essential for preparing a student for scientific and publication work. Therefore I have to mention these formal mistakes in the text:

- Text is inconsistent in block arrangement; there is no formatting in chapters 3.3., 3.4.1., 3.4.3.-7., 3.5., and 4.3.
- In figure 6 B the y axis lacks proper marking – probably the word "intensity" is missing.
- On page 31, the last sentence has two different endings.
- The main chapters should start on new page.
- Figure 17 is not mentioned in the text – I consider this as a much more serious mistake than the upper ones.

  The use of x instead of ×, it is not allowed in most journals

Handling references is not very precise. I think this situation is caused by the very time-consuming laboratory work. However it is the main reason why I decide to downgrade this valuable work.

- Number of references is sufficient but I miss their occurrence in the Introduction chapter. References would be applicable especially for the following parts of text: p.5 down; figure 4, page 13 at the end of chapter 1.5, page 37.
- Most importantly, citation of Wikipedia as a fine scientific source should never occur in a thesis. In most cases in an online knowledge database it is possible to obtain the original sources, and these should be used as a reference.

Besides the formal issues, in my opinion, the text has a poor drive, despite the quality of this study is relatively high. There is no explanation why this work is done; it does not appear until page 37. I prefer this information earlier, for example at the end of first chapter. It seems to me like a detective story and I think this should be a little different type of literature. The chapter Aims is very brief. Each of the three aims should be better explained; maybe the

type of used methodology would suffice. Finally, the Conclusion chapter seems to me more like "Discussion" and I miss a real brief conclusion for this work to summarize the accomplished work.

Despite these objections I consider this study as an efficient piece of scientific work. Martina proved herself as a valuable member of the research team with a perspective to become a good scientist. I recommend this study for defense.

Questions:

- optimalization of resaurin assay: Do you think that the first experiment BFI was unsuccessful due the saturation of most cells by resaurin in the first 2 hours of incubation or is it this caused by the detection limit of the fluorimeter?
- cytotoxicity screen: Did you try use DMSO also for all tested ANPs or only for TT-200510 and MK-717?
- The reason why only two genes and three amino acid sequences for HGXPRT are showed in section 3.4.1. is only explained later in Results section 4.3 with no reference. Does this mean the author identified the similarity of genes 1400 and 1470 by searching the genome?