

Posudek na bakalářskou práci	
<input type="checkbox"/> školitelský posudek <input checked="" type="checkbox"/> oponentský posudek	Jméno posuzovatele: Mgr. Zuzana Krchňáková <hr/> Datum: 17.5.2018
Autor: Tereza Hubáčková	
Název práce: Role of the ubiquitin-like protein, Hub1, in the pre-mRNA splicing regulation	
<input checked="" type="checkbox"/> Práce je literární rešerší ve smyslu zveřejněných požadavků (pravidel). <input type="checkbox"/> Práce obsahuje navíc i vlastní výsledky.	
Cíle práce (předmět rešerše, pracovní hypotéza...) Presented work is a literature summary of the function and interacting partners of Hub1 protein studied in the yeast <i>Saccharomyces cerevisiae</i> . The author provides a detailed review of the available literature focusing on the role of Hub1 protein supported by experimental data. The proposed model of Hub1 function suggests sophisticated regulation of splicing via modulating splice site recognition in the early steps of spliceosome assembly.	
Struktura (členění) práce: The general structure of the thesis is well organized. The chapters are ordered logically and provide enough information for the reader to follow and understand easily.	
Jsou použité literární zdroje dostatečné a jsou v práci správně citovány? Použil(a) autor(ka) v rešerši relevantní údaje z literárních zdrojů? The literature was used extensively. The majority of cited studies were published relatively recently, so the presented thesis provides up to date summary on the chosen topic. On top of that, the author used several review papers which were applied thoughtfully over whole work.	
Pokud práce obsahuje (nadstandardně) i vlastní výsledky, jsou tyto výsledky adekvátním způsobem získány, zhodnoceny a diskutovány?	
Formální úroveň práce (obrazová dokumentace, grafika, text, jazyková úroveň): The thesis was written at a very high level of English. There were only a few grammatical issues or typos. However, this did not degrade the overall quality of the work. The figures were used coherently helping the reader to orient in the text. The general graphic design of the work was well prepared.	
Splnění cílů práce a celkové hodnocení: The aim of bachelor thesis was fulfilled. The author used available literature appropriately and organized it very well showing that she can work with available sources. Additionally, I would like to stress that I appreciate that the author decided to write the thesis in English since writing scientific papers in English has become a necessity in recent years. The final evaluation of the thesis is excellent.	

Otázky a připomínky oponenta:

Even though the thesis is written at a high quality, I have a few minor points and questions.

Minor points:

1. On page 3 (and elsewhere), I would recommend emphasizing the specific nucleotides within a sequence by italicized or underlined the letter but not changing the color.
2. On page 3, there is a detailed overview how snRNAs are loaded onto pre-mRNAs. However, one would benefit from a figure depicting particular interactions to easier understand complex network of interactions that are made during spliceosome assembly.

Questions:

1. On page 12, the author says that in the absence of Hub1 protein, spliceosomes assembled on suboptimal substrates are stalled at the stage of H-complex in the earliest steps of the spliceosomal cycle. Is it known something more about how these stalled complexes are dissociated from mRNAs and eventually recycled?
2. On page 19, the author mentions the error-prone mechanism as a possible explanation for Hub1 function in the cell. As an example of such mechanism was given the usage of translesion polymerases. Can the author briefly describe how translesion polymerases could have positive effects on the synthesis and how this can be applied for putative error-prone Hub1-induced splicing?
3. On page 22, the author states that there is no sequence similarity of splice sites of influenced introns after UBL5 depletion in humans which suggests that UBL5 is not working through the sequence recognition. How would the author explain that in *S. cerevisiae*, there were found several Hub1-dependent 5' splice sites?

Návrh hodnocení školitele nebo oponenta (bude zveřejněn)

výborně velmi dobře dobře nevyhověl(a)

Podpis školitele/opponenta: