Guidelines for Speculative Sentence Annotation

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1 Introduction

This document provides guidelines on annotation of scientific papers with indicators of the use of speculative language. It builds on work by [1].

2 Annotation Guidelines

- Mark a sentence as containing speculative language by placing an * (asterisk) marker before the <s id=... > tag, eg:

  *<s id="235"> Furthermore , after its recruitment , the RAG1 core most likely went through...

- If a sentence contains ANY speculative component, it should be labeled speculative.

- The following ARE considered instances of hedging (we will refer to a speculative assertion as a 'hedge'):

  1. any assertion relating to a result that does not necessarily follow from the work presented, but could be extrapolated from it [1], eg:

     This unusual substrate specificity may explain why Dronc is resistant to inhibition by the pan-caspase inhibitor

     Indeed, most mitochondria released all their cytochrome c, suggesting that an enzymatic transport mechanism is probably not involved

     Our results provide the first direct evidence linking RAG1 and RSSs to a specific superfamily of DNA transposons and indicate that the V(D)J machinery evolved from transposons

     A reduction of coverage could be the result of a reduction in dendrite outgrowth or branching

     Thus, nervy likely regulates multiple aspects of neuronal differentiation

  2. relay of hedge made in previous work, eg:

     Dl and Ser have been proposed to act redundantly in the sensory bristle lineage

  3. statements of knowledge paucity, eg:

     How endocytosis of Dl leads to the activation of N remains to be elucidated

     Biochemical analysis of the ubiquitination events regulated by D-mib will be needed to further define the mechanism by which D-mib regulates the endocytosis of Ser in vivo

     There is no clear evidence for cytochrome c release during apoptosis in C. elegans or Drosophila

There is no apparent need for cytochrome c release in C. elegans, since CED-4 does not require it to activate CED-3

4. speculative questioning, eg:

   A second important question is whether the roX genes have the same, overlapping or complementing functions

5. statement of speculative hypothesis, eg:

   To test whether the reported sea urchin sequences represent a true RAG1-like match, we cut off the ring finger motif and repeated the BLASTP search against all GenBank proteins

6. anaphoric hedge, eg:

   This hypothesis is supported by our finding that both pupariation rate and survival of . . .

   The rescue of the D-mib mutant phenotype by ectopic expression of Neur strongly supports this interpretation

- The following are NOT considered instances of hedging:

   1. indication of experimentally observed non-universal behaviour, eg:

      proteins with single BIR domains can also have functions in cell cycle regulation and cytokinesis

      These results demonstrate that ADGF-A overexpression can partially rescue the effects of constitutively active Toll signaling in larvae

      IAPs contain at least one BIR domain, and often a carboxy-terminal RING domain

   2. confident assertion based on external work, eg:

      Two distinct E3 ubiquitin ligases have been shown to regulate Dl signaling in Drosophila melanogaster

   3. Statement of existence of proposed alternatives, eg:

      Different models have been proposed to explain how endocytosis of the ligand, which removes the ligand from the cell surface, results in N receptor activation

   4. Confirmation of previous speculation, eg:

      Here we show that the hemocytes (blood cells) are the main regulator of adenosine in the Drosophila larva, as was speculated previously for mammals

   5. Confirmation of already firmly-stated conclusion

      This conclusion is further supported by the even more efficient rescue achieved by . . .

   6. Negation of previous hedge

      Although the adgf-a mutation leads to larval or pupal death, we have shown that this is not due to the adenosine or deoxyadenosine simply blocking cellular proliferation or survival, as the experiments in vitro would suggest

References

[1] M. Light, X.Y. Qiu, and P. Srinivasan. The language of bioscience: Facts, speculations, and statements in between. In *Proceedings of BioLink 2004 Workshop on Linking Biological Literature, Ontologies and Databases: Tools for Users, Boston, May 2004*, 2004.