

Peer Review

Review of: "Mechanisms of Selection on Cancer-Causing Mutations"

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Peer reviewer comments

Review article title: Mechanisms of Selection on Cancer-Causing Mutations

The paper talks about the reason behind the selection of genes that are usually mutated to give rise to cancer. It highlights several hypotheses to answer this question and provides a direct comparison of evidence available in the literature to back up these hypotheses and suggests testable experiments that can be carried out to prove these hypotheses.

Major Concerns

1. Growth factor deficiency and growth factor-independent mutants: Would it be useful to also talk about other growth factors apart from EGF & IGF to further demonstrate this hypothesis of normal external growth factor signals leading to a disadvantage in the selection of any of the mutants?
2. If radiation exposure and other chronic mutagenic exposures create the selective environment for cancer-causing gene mutations, what percentage of the human body's internal environment versus the external environment accounts for more of this selection?
3. Under the subtitle "Evidence from published literature" number iv, it was stated that increasing the mutation rate alone is not likely to be a sufficient cause of cancer. Can there be more explanation following that statement on what other factors are the cause of cancer apart from the accumulation of mutated genes?
4. Under the subtitle "How to test hypotheses empirically," the paper did not detail steps on how to test these hypotheses experimentally as stated in the abstract.

Also, the word "empirically" does not align with the word "experimentally" as stated in the abstract.

Declarations

Potential competing interests: No potential competing interests to declare.