Review of: "Introduction to Evolutionary Cancer Cell Biology (ECCB) and Ancestral Cancer Genomics"

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Potential competing interests: No potential competing interests to declare.

In this article, the author introduces a new approach, entitled as evolutionary cancer cell biology (ECCB), which provides an evolutionary perspective on the origins of cancer. This innovative approach offers a fresh perspective. By suggesting that the cancer genome evolved long before the emergence of multicellular organisms, the paper places cancer development in a broader temporal context, potentially leading to a deeper understanding of its origins. ECCB seeks to integrate various evolutionary ideas, hypotheses, and theories into a single framework. This integrative approach may contribute to a comprehensive understanding of the relationship between cancer genomics and ancient premetazoan genes.

This is a very strong and inspiring paper. It encompasses a lot of new fundamental knowledge that can be used for scholarly lectures and for therapy.

One of the strengths of the paper is that it challenges the prevailing view of the primary role of genetic changes and mutations in cancer development. It argues that somatic mutations may be secondary events, prompting a re-evaluation of the significance of such genetic alterations in tumorigenesis.

Another prominent opening is that serious DNA damage can be repaired via cell fusion and the formation of giant polyploid cells.

The author also underscores a very important feature of polyploid cells, i.e., that polyploid cells of various classes demonstrate absolutely distinct phenotypes and biology..

There is just one small question: Recent studies indicate that the awakening of ancient evolutionary programs is possible because of the chromatin opening. How do you think, what is the nature of the ploidy-related inhibition of pathways related to apoptosis and tumor suppression?

With kindest regards and gratitude for this deep study,

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