Review of: "Uncovering Insights Into the Bio-Efficiency of Zingiber Officinale Roscoe: Understanding Components That Contribute Significantly to Ginger's Anti-inflammatory and Antioxidant Potential in Relationship With Modern Drying Methods"

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Potential competing interests: No potential competing interests to declare.

The study provides valuable insight into the effects of food drying on the bioactivity of ginger, highlighting the significant disparity between freeze-dried and conventionally oven-dried ginger. The substantial impact of high temperatures on the stability of bioactive compounds, particularly antioxidants, is widely recognized, and this analysis sheds light on how different drying methods can influence the preservation of these therapeutic properties. This comparison underscores the importance of carefully considering food processing techniques in optimizing the bioactive activity of foods, which is crucial for the development of effective and safe therapies based on natural products.

The substantial impact of high temperatures on the stability of bioactive compounds, particularly antioxidants, is widely recognized, and this analysis sheds light on how different drying methods can influence the preservation of these therapeutic properties. However, it is noteworthy that the justification for the inclusion of in silico analyses in the study is not thoroughly explored. Clarifying the rationale behind incorporating computational modeling could enhance the comprehensibility and robustness of the research findings. This comparison underscores the importance of carefully considering food processing techniques in optimizing the bioactive activity of foods, which is crucial for the development of effective and safe therapies based on natural products.

The study provides valuable insights into the bioactive components of ginger and their potential therapeutic applications. However, several critical points need to be addressed. Firstly, while the findings contribute to the understanding of ginger's medicinal properties, they do not significantly advance existing knowledge in the field. Similar observations regarding the anti-inflammatory and antioxidant effects of ginger have been reported in previous studies, thereby diminishing the novelty of the current findings.

Furthermore, while in silico studies offer a valuable theoretical framework for understanding molecular interactions, they do not provide direct evidence of biological activity. Therefore, the reliance on computational modeling as the primary method of investigation may limit the robustness of the conclusions drawn from the study. Additionally, the study lacks validation through in vivo experiments, which are essential for confirming the observed effects of dried ginger on anti-inflammatory and antioxidant activity.

In terms of relevance, while the study addresses an important aspect of natural product-based drug discovery, its significance is somewhat undermined by the absence of groundbreaking findings or methodological innovations. Moreover, the potential increase in anti-inflammatory and antioxidant activity of dried ginger, while promising, may vary depending on the specific drying technique employed, highlighting the need for further research to optimize drying methods for medicinal purposes.

In conclusion, while the study provides valuable insights into the bioactive properties of ginger and its potential therapeutic applications, its contributions are limited by its lack of novelty, reliance on computational modeling, and the absence of in vivo validation. Therefore, under the criteria of novelty, scientific contribution, and relevance, the article is tentatively rejected for publication pending significant revisions addressing the aforementioned limitations and enhancing the rigor and significance of the findings.