Review of: "Critical Review on Carbon Nanomaterial Based Electrochemical Sensing of Dopamine the Vital Neurotransmitter"

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Potential competing interests: No potential competing interests to declare.

Strengths

Relevance and Importance

- The focus on dopamine sensing aligns with the growing prevalence of neurological disorders, making the research highly relevant to current healthcare challenges.
- Highlighting the scarcity of diagnostic tools and the need for personalized medicine resonates with global trends in healthcare innovation.

Comprehensive Scope

- The article effectively summarizes key areas, including dopamine properties, the role of carbonaceous nanomaterials, and advancements in electrochemical sensing.
- The inclusion of both in vivo and in vitro applications ensures a holistic understanding of the topic.

Emphasis on Feasibility

- By discussing the potential commercialization of diagnostic techniques, the article bridges the gap between research and practical application, which is crucial for translational science.

Focus on Non-Enzymatic Methods

- The review's concentration on non-enzymatic electrochemical sensing reflects a modern and efficient approach to biomarker detection, offering advantages such as simplicity, speed, and reduced cost.

Critical Challenges and Future Prospects

- Addressing challenges such as interference and commercialization hurdles provides a balanced perspective. It ensures the review does not overstate the current capabilities of dopamine sensing technologies.

The article serves as a solid overview of recent advancements in dopamine sensing, particularly focusing on electrochemical methodologies and carbonaceous nanomaterials. While it excels in relevance, comprehensiveness, and

the discussion of commercialization potential,