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Peer Review

Review of: "Synthesis, ADME, Toxicity, and In Silico Molecular Docking Study of Novel β-Carboline Derivatives as Potential Inhibitor Anticancer Agents"

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This article presents promising new compounds that are designed for anti-cancer therapy. They are synthesized through conventional methods and further characterized using mass spectrometry, IR, and other techniques. This paper provides insights into cancer treatment by beta-carboline derivatives that are more well known for their wide range of biological activity. This paper highlights the challenge posed by drug resistance in cancer treatment and the making of novel, naturally sourced compounds. Based on molecular docking, the compounds are demonstrated and show ADME properties for further pharmacokinetic studies. This suggests that the compounds have high gastrointestinal absorption. The study shows the therapeutic potential of these compounds in the fight against cancer. The findings also highlight that naturally based compounds help to address the ongoing problem of drug resistance in cancer treatment. The strengths are that novel beta-carboline derivatives are an approach to cancer treatment and focus on overcoming drug resistance. Molecular docking suggests the potential of these compounds in targeting specific proteins relevant to cancer treatment. The ADME and toxicity profiling predictions give valuable primary data for the further development of these compounds as therapeutic agents. Further experimental validation in vivo studies is necessary to fully assess the therapeutic efficacy. Toxicity profiling is clearly presented for the safety considerations of the compounds. The compounds show good binding affinity in silico, which strengthens their potential as anti-cancer agents. The limitation is that in toxicity profiling, the actual in vivo data is needed to confirm the compounds' safety and efficacy in living beings. In ADME profiling, the most promising aspect is that these compounds show favourable absorption and drug likeness.

Declarations

Potential competing interests: No potential competing interests to declare.

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