Review of: "Design, Synthesis, and In-Silico Analysis of Thiazole-Embedded Schiff Base Derivatives for Breast Cancer Therapeutic Potential"

Abhishek Ghara[1]

1 Acharya Institutes, Bengaluru, India

Potential competing interests: No potential competing interests to declare.

Strengths:

Scientific Relevance: Thiazole-derived Schiff base compounds are of significant pharmacological interest, and this study addresses their broad-spectrum biological activities, aligning with current efforts to discover novel therapeutic agents.

Comprehensive Approach: The inclusion of synthesis, characterization, and in-silico analysis, including molecular docking against key therapeutic targets, provides a well-rounded investigation.

Benchmarking: Comparing the synthesized compounds against FDA-approved breast cancer drugs adds relevance and a comparative framework for understanding their potential.

In-Silico Evaluation: The use of molecular docking, ADME, and Lipinski rule assessments strengthens the study's predictive value regarding drug-like properties.

Suggestions for Improvement:

Depth of Biological Assays: While molecular docking results are promising, it would be beneficial to include experimental validation (e.g., in vitro or in vivo studies) to complement the in-silico findings and establish a more direct link between the compounds and their biological effects.

Clarity on Molecular Targets: The explanation of the role of fatty acid synthase and other therapeutic targets could be expanded slightly for clarity, especially for readers unfamiliar with these pathways.

Visual Representation: Incorporating more figures or graphs summarizing the docking scores, interaction patterns, and ADME properties could enhance the reader's understanding and engagement.

Overall:

This study is well-executed and provides valuable insights into the potential of thiazole-embedded Schiff base derivatives as anticancer agents. The work could be rated highly, particularly for its in-silico analysis and relevance in the context of breast cancer therapeutics.