Breast Cancer: Targets and Therapy

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LETTER

The Potent Novel CDK4/6 Inhibitor TQB3616 in Hormone Receptor Positive Breast Cancer: Preclinical Characterization with in vitro and Human Tumor Xenograft Models [Letter]

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Dear editor

We are writing to provide input on the article titled "Novel Potent CDK4/6 Inhibitor TQB3616 in Hormone Receptor Positive Breast Cancer: Preclinical Characterization with in vitro and Human Tumor Xenograft Models" by Wenyu Hu et al, published in Breast Cancer: Targets and Therapeutics. This article presents a comprehensive preclinical evaluation of the CDK4/6 inhibitor TQB3616, highlighting its antiproliferative activity in hormone receptor positive breast tumor cells. Research findings regarding the favorable pharmacokinetic and pharmacodynamic properties of TQB3616, as well as its effectiveness in in vivo xenograft models, deserve special attention.[1]

Moreover, the molecular and biological characterization of TQB3616, as well as its comparison with abemaciclib, provide valuable insights into the potential clinical applications of this novel inhibitor. The inclusion of detailed methods, such as molecular modeling, cell line culture, clone formation experiments, real-time quantitative PCR, and xenograft tumor studies, increases the credibility and relevance of these findings.

While this study provides valuable insights, there are some weaknesses that need to be noted. Firstly, this study is based on preclinical data, so the results have not been tested in a broad human patient population. In addition, the use of the NOD-SCID mouse xenograft model may not fully represent the response in human patients. Furthermore, although this study compared TQB3616 with abemaciclib, there was no direct comparison with other similar drugs, which may provide a more complete picture of the potential of this therapy. In addition, some methods such as cell ultrastructure analysis and apoptosis analysis may require further validation to ensure consistent results. Lastly, although this study acknowledges support from the National Natural Science Foundation of China and ChiaTai Tianqing Pharmaceutical Company, transparency regarding potential conflicts of interest and influence from the supporting parties needs to be further clarified. With these shortcomings in mind, further studies involving broader clinical trials and further validation are needed to thoroughly confirm the therapeutic potential of TQB3616 in the treatment of breast cancer.

To increase the reliability and relevance of this study, several recommendations for improvement are proposed. First, further studies involving clinical trials in human patients need to be conducted to validate the effectiveness of TQB3616 in the treatment of breast cancer. This will provide a more comprehensive understanding of patient response to this therapy. In addition, the expansion of comparators with other similar drugs will also provide a more complete picture of the potential of TQB3616 in the context of existing therapies. Further validation of analytical methods such as cell ultrastructure analysis and apoptosis analysis is also needed to ensure consistency of results. In addition, greater transparency regarding potential conflicts of interest and influence from supporting parties needs to be clarified in the publication of this study. Finally, collaborations with a wider range of research institutions and the pharmaceutical industry can broaden access to resources and advanced

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technologies, and strengthen the validity of findings.[2,3] With these recommendations in mind, future research is expected to make a greater contribution to the development of innovative and effective breast cancer therapies.

Disclosure

The author(s) report no conflicts of interest in this communication.

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