

Navigating drug discovery with *Targetome*

Haiping Hao^{1,2*} and Frank Kirchhoff^{3,4*}

¹ State Key Laboratory of Natural Medicines, China Pharmaceutical University, Nanjing 211198, China

² School of Pharmacy, China Pharmaceutical University, Nanjing 211198, China

³ Molecular Physiology, Center for Integrative Physiology and Molecular Medicine (CIPMM), University of Saarland, Homburg 66421, Germany

⁴ Center for Gender-specific Biology and Medicine (CGBM), University of Saarland, Homburg 66421, Germany

* Correspondence: haipinghao@cpu.edu.cn (Hao H); frank.kirchhoff@uks.eu (Kirchhoff F)

What is a drug target? And how many targets are there? These thought-provoking questions on the nature and quantity of drug-gable targets, raised nearly two decades ago, continue to occupy the thoughts of scientists in both academia and the pharmaceutical industry. The limited target space for successful drug development has become a major concern, especially in light of the rising global burden of chronic diseases, and the persistent unmet needs in clinical therapy. Consequently, previous drug development strategies focusing on a single target or node have often demonstrated limited efficacy. It is increasingly evident that the emergence and progression of chronic conditions, including diabetes, cancer, autoimmune diseases, and neurodegenerative disorders such as Alzheimer's disease, are driven by complex interactions among multiple organs, cell types, signaling pathways, and molecular processes that unfold across different spatial and temporal scales. In contrast, combination therapies that target two or more pathways have shown superior pharmacological activity on chronic diseases, raising a new direction in breaking the stalemate of chronic disease management. However, the combination therapies under clinical use or development are mainly obtained by empirical or random pairing, and there remains substantial room for advancement for next-generation combination therapy, which is inspired from *de novo* target discovery and validation. Clearly, there is an urgent need to discover and validate potential new targets and combination therapies that exhibit significant therapeutic advantages in complex chronic diseases, clarify the synergistic mechanisms of these combination therapies, and establish scientific frameworks for rational discovery of combinatorial target effects.

Amidst this rapidly evolving drug discovery landscape, and in anticipation of next-generation therapeutics, an open, dynamic, and authoritative platform for disseminating research findings, expert perspectives, and future visions are more essential than ever. It is with great enthusiasm that we launch *Targetome*, an open access, peer-reviewed interdisciplinary journal serving authors, reviewers, and readers. *Targetome* aims to publish outstanding and influential research in all areas of target discovery, validation, and translational drug study, as well as general topics of interest to biomedical and clinical professionals. As a community-driven platform, our goal is to establish *Targetome* as a premier journal in the broad area of drug discovery, development, and clinical treatment. The journal strives to: (1) serve as an open knowledge repository for novel targets, target-based, and combination therapies; (2) facilitate the communication of cutting-edge technologies and robust frameworks for target discovery and validation; and (3) promote inclusive and unbiased academic exchange to advance drug discovery, and improve human health.

The journey of drug discovery begins with a precise focus towards the target. The breakthrough in target research and new drug discovery demands collaborative efforts from scholars across the

globe. Whether through groundbreaking original discoveries, or the refinement of established theories, whether via technological innovation or the translation of research into clinical applications, *Targetome* wants to be your premier destination for sharing such important contributions.

We extend our deepest appreciation to all the dedicated researchers and colleagues whose enthusiasm and expertise have been essential in bringing *Targetome* to life. We firmly believe that the success of a journal depends on the trust of its authors, the diligence of its reviewers, and the engagement of its readers. To this end, we are committed to maintaining the highest academic standards throughout our rigorous peer-review process, streamlining publication timelines through efficient workflows, and remaining consistently attentive to the perspectives of the global scholarly community. Thank you for your support. We hope you find inspiration and value in every issue of *Targetome*.



Haiping Hao



Frank Kirchhoff

Conflict of interest

The authors declare that they have no conflict of interest.

Dates

Received 10 September 2025; Accepted 10 September 2025;
Published online 20 September 2025



Copyright: © 2025 by the author(s). Published by Maximum Academic Press on behalf of China Pharmaceutical University. This article is an open access article distributed under Creative Commons Attribution License (CC BY 4.0), visit <https://creativecommons.org/licenses/by/4.0/>.