



Universiteit
Leiden
The Netherlands

Getting personal: advancing personalized oncology through computational analysis of membrane proteins

Gorostiola González, M.

Citation

Gorostiola González, M. (2025, January 24). *Getting personal: advancing personalized oncology through computational analysis of membrane proteins*. Retrieved from <https://hdl.handle.net/1887/4093962>

Version: Publisher's Version

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Stellingen

Behorende bij het proefschrift

Getting personal

Advancing personalized oncology through computational analysis of membrane proteins

1. Personalized oncology can and should extend beyond the use of kinase inhibitors.
This thesis.
2. The primary limitation in computational drug discovery lies in the availability of data, and it is essential to ensure that data is accessible and reusable at all times.
This thesis, in particular Chapters 4, 7, and 8.
3. Computational tools represent a valuable resource for testing hypotheses in silico and expediting the drug discovery process. However, it is essential that in vitro and in vivo approaches are subsequently employed to validate findings.
This thesis, in particular Chapters 2 and 6.
4. It may be challenging to fully overcome the complexity of cancer, however, by thoroughly examining it from multiple perspectives, we can stay ahead of the disease and deliver optimal care to patients.
This thesis.
5. While the TCGA project was groundbreaking and the analysis of its data has offered valuable insights for personalized oncology, it is important to consider a broader scope beyond its 11,000 patients.
*Based on Jensen, M.A., Ferretti, V., Grossman, R.L. & Staudt L.M. Blood **130**, 453-459 (2017).*
6. Advances in computational methods are crucial to accelerate the discovery of novel anticancer targeted drugs, as long as they go hand in hand with advances in molecular biology and chemistry.
*Based on Stuart D.D. et al. Cancer Discov. **13**, 2131–2149 (2023).*
7. In addition to advancing the field of drug discovery, it is imperative that we enhance patient access to genetic testing and approved medications.
*Based on Cooper K.E. et al. Ethn Dis. **32**, 39-48 (2022).*
8. Expanding research beyond genomics data to include multiple types of omics data would provide researchers with a more comprehensive understanding of the various factors influencing the response to therapy in cancer patients.
*Based on Haslam, A., Kim, M.S. & Prasad, V. Ann. Oncol. **32**, 926–932 (2021).*
9. The capacity to blunder slightly is the real marvel of DNA. Without this specific attribute, we would still be anaerobic bacteria, and there would be no music.
Levis Thomas, The Medusa & the snail, 1974
10. Engaging in direct conversations with cancer survivors is imperative for every cancer researcher, especially those involved in fundamental research.
11. The progress of society is heavily reliant on advances in science, which in turn are reliant on the dedication of scientists. However, it is important to recognize that passion for science does not provide financial and mental stability.
12. If you are reading this: eat healthy, exercise, use sunblock, and never pick up smoking. Prevention is the best cure.

Marina Gorostiola González
Leiden, 24th January 2025