

Network pharmacology for mechanistically redefined comorbidities

Citation for published version (APA):

Elbatrik, M. (2020). *Network pharmacology for mechanistically redefined comorbidities*. [Doctoral Thesis, Maastricht University]. Gildeprint Drukkerijen. <https://doi.org/10.26481/dis.20200826me>

Document status and date:

Published: 01/01/2020

DOI:

[10.26481/dis.20200826me](https://doi.org/10.26481/dis.20200826me)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

www.umlib.nl/taverne-license

Take down policy

If you believe that this document breaches copyright please contact us at:

repository@maastrichtuniversity.nl

providing details and we will investigate your claim.

Propositions belonging to the thesis

‘Network pharmacology for mechanistically redefined comorbidities’

Mahmoud H Elbatrik, 26th August 2020

1. Many diseases are defined rather by symptoms than by causal mechanisms.
2. A drug can only be effective and precise if the molecular disease mechanism is known but most drugs treat symptoms, are ineffective and do not cure; therefore, diseases should be redefined based on their molecular, causal mechanism.
3. According to network pharmacology most diseases are due to dysregulated signalling modules rather than single targets; they should be treated by a synergistic combination of drugs against multiple targets in the same module.
4. Drug repurposing is an excellent strategy to speed up clinical translation of basic biomedical research.
5. NADPH oxidase 5-induced uncoupling of nitric oxide synthase is a theragnostic target of age-related hypertension and its associated risks, aortic aneurysm and post-stroke haemorrhagic transformation.
6. NO self-limits its ability to induce cGMP formation via a chemical feedback that haem depletes and inactivates soluble guanylate cyclase.
7. Interdisciplinary collaboration between biomedical researchers, clinicians and data scientists in network medicine saves and improves quality of lives whilst at the same time decreases research and health care costs.
8. “To do successful research, you do not need to know everything, you just need to know one thing that is not known” (Arthur L. Schawlow).
9. “Prevention is better than cure” (Desiderius Erasmus).
10. “The cure of ignorance is inquiry” (Prophet Muhammed ‘pbuh’)