

# The NADPH oxidase DUOX1 in chronic lung diseases

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## Propositions

Accompanying the dissertation

### **The NADPH oxidase DUOX1 in chronic lung diseases**

*Oxidative stress paradox during aging*

Caspar Schiffers, Maastricht, 2021

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1. The transient receptor potential channel vanilloid 1 is critically involved in calcium-mediated activation of dual oxidase 1, which is important for airway epithelial innate responses to injury (*this dissertation*).
  2. Oxidative stress refers to elevated intracellular levels of reactive oxygen species (ROS) that cause damage. However, ROS also function as signaling molecules in the maintenance of physiological functions, termed redox signaling (Sies, 2017).
  3. While dual oxidase 1 at young age is essential for mucosal host defense, reduced levels of dual oxidase 1 during aging predisposes to the development of chronic lung disease (*this dissertation*).
  4. Chronic lung diseases in the elderly deserve more efficient, tailored treatment options than the ones that are currently available. Research that acknowledges and addresses the impact of aging on chronic lung disease development and manifestation is crucial for advancing science to develop novel treatment strategies.
  5. Lung health is intimately associated with good health in the elderly (Bowdish, 2019).
  6. A significant proportion of the general population has a low lung function trajectory, which relates to multiple, potentially preventable or modifiable factors that vary and accumulate with age (Robab-Kohansal, 2020)
  7. Vermont (beer), America's best kept secret!
  8. "Knowledge speaks, but wisdom listens." – Jimi Hendrix
  9. "Of all the paths you take in life, make sure a few of them are dirt." — John Muir
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