# Article information:

Nanoarchitecture and dynamics of the mouse enteric glycocalyx examined by freeze-etching electron tomography and intravital microscopy | Communications Biology  
<https://www.nature.com/articles/s42003-019-0735-5>

# Article summary:

1. The intestinal epithelium is the largest interface between the body and the external environment.

2. The glycocalyx layer of the small intestine is comprised of secreted and transmembrane glycoproteins that protect the intestinal mucosa from pathogens and mechanical stresses.

3. This study used deep-etching electron tomography to reveal the detailed 3D organization of the enteric glycocalyx, as well as intravital imaging to explore its porosity and deformability in vivo.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article “Nanoarchitecture and dynamics of the mouse enteric glycocalyx examined by freeze-etching electron tomography and intravital microscopy” provides a comprehensive overview of the structure and function of the enteric glycocalyx in mice. The article is well written, with clear explanations of relevant concepts, such as microvilli, mucin tandem repeats, O-glycosylation, etc., which makes it easy for readers to understand even if they are not familiar with these topics. Furthermore, it provides a thorough description of how deep-etching electron tomography was used to reveal the 3D organization of the enteric glycocalyx, as well as intravital imaging to explore its porosity and deformability in vivo.

The article does not appear to be biased or one-sided; it presents both sides equally by providing evidence for its claims (e.g., citing previous studies on gel-forming and transmembrane mucins) as well as exploring counterarguments (e.g., discussing how dehydration can cause collapse of filament networks). It also does not appear to contain any promotional content or partiality towards any particular viewpoint or opinion. Additionally, possible risks associated with studying this topic are noted (e.g., changes in level of mucin glycosylation have been implicated in various pathological conditions).

The only potential issue with this article is that it does not provide any missing points of consideration or missing evidence for its claims; however, this is likely due to space constraints rather than an intentional omission on behalf of the authors. All in all, this article appears to be trustworthy and reliable overall.

# Topics for further research:

* Enteric glycocalyx structure
* Enteric glycocalyx function
* Microvilli structure
* Mucin tandem repeats
* O-glycosylation
* Intravital microscopy

# Report location:

<https://www.fullpicture.app/item/26d970ebf15fa4060df9d84b8135f431>