# Article information:

Slow TCA flux and ATP production in primary solid tumours but not metastases | Nature
<https://www.nature.com/articles/s41586-022-05661-6>

# Article summary:

1. Cells use ATP as their main energy currency, which is produced by either glycolysis or mitochondrial oxidative metabolism.

2. Tumours display metabolic alterations relative to healthy tissues, with Warburg's pioneering studies in the 1920s demonstrating that tumours rapidly convert glucose into lactate even in the presence of oxygen.

3. This study developed and validated a strategy to measure tricarboxylic acid (TCA) cycle flux in tissues and tumours in mice, showing that primary solid tumours have markedly suppressed TCA turning but still make a majority of their ATP oxidatively.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article is generally reliable and trustworthy, providing evidence for its claims through isotope tracing experiments and quantitative modelling of the resulting metabolite labelling data. The authors also provide references to previous studies on the topic, which further adds to the trustworthiness of the article. Furthermore, the article does not appear to be biased or one-sided; it presents both sides of the argument fairly and objectively.

However, there are some points that could be improved upon. For example, while the authors do mention potential triggers for glycolysis such as impaired oxidative ATP production, they do not explore this point further or provide any evidence for it. Additionally, while they discuss Warburg's hypothesis that tumours are intrinsically respiration deficient, they do not provide any counterarguments or explore alternative explanations for this phenomenon. Finally, while they mention possible risks associated with their experiments (e.g., euthanasia by cervical dislocation), they do not discuss any potential ethical implications of their research or how these risks can be minimized in future studies.

# Topics for further research:

* Impaired oxidative ATP production
* Warburg's hypothesis tumours
* Alternative explanations glycolysis
* Ethical implications research
* Risks associated experiments
* Minimizing risks experiments

# Report location:

<https://www.fullpicture.app/item/1b05bd13df3a6cd94138a901240f91da>