# Article information:

Frontiers | Lactylation, a Novel Metabolic Reprogramming Code: Current Status and Prospects  
<https://www.frontiersin.org/articles/10.3389/fimmu.2021.688910/full>

# Article summary:

1. Lactate, previously considered a waste product of glycolysis, has been found to have novel biological functions as both a carbon source for cellular metabolism and a signaling molecule.

2. Epigenetic modifications and gene expression are influenced by metabolites such as acetyl-CoA, α-ketoglutarate, and NAD+, which play crucial roles in cellular plasticity.

3. The Warburg effect, characterized by high glycolysis and low oxidative phosphorylation, confers advantages on proliferating cells such as tumor cells by producing lactate that supports biosynthesis and prevents oxidative stress. Lactate turnover is rapid throughout the body.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

该文章提出了一种新的代谢重编程代码——乳酰化，探讨了乳酸代谢与功能之间的关系以及乳酸衍生物乳酰化的存在和重要性，并讨论了乳酰化的治疗方面。然而，该文章存在以下问题：

1. 偏见来源：该文章过于强调乳酸在肿瘤细胞中的作用，忽略了其他类型细胞中乳酸代谢和功能的重要性。此外，该文章未考虑到不同类型肿瘤细胞之间可能存在差异。

2. 片面报道：该文章只介绍了乳酸在肿瘤细胞中的作用，但未涉及其他类型细胞中乳酸代谢和功能的相关信息。

3. 无根据主张：该文章声称乳酰化是一种新的代谢重编程代码，但并未提供足够证据支持这一主张。

4. 缺失考虑点：该文章未考虑到不同环境下（如缺氧、高温等）对乳酸代谢和功能的影响。

5. 主张缺失证据：尽管该文章声称乳酰化具有治疗潜力，但并未提供足够证据支持这一主张。

6. 未探索反驳：该文章未探讨可能存在的反驳观点或争议点。

7. 宣传内容偏袒：该文章过于强调乳酸在肿瘤细胞中的作用，并将其描述为“重要”的代谢途径，可能会误导读者认为所有类型肿瘤都依赖于此途径。

8. 没有平等地呈现双方：该文章只介绍了一个观点，并没有平等地呈现其他可能存在的观点或争议点。

# Topics for further research:

* Other types of cells and their lactate metabolism and functions
* Lactate metabolism and functions in non-tumor cells
* Evidence supporting lactylation as a new metabolic reprogramming code
* Effects of different environments on lactate metabolism and functions
* Lack of evidence supporting lactylation as a potential therapy
* Possible opposing viewpoints or controversies

# Report location:

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