# Article information:

Evolution of dietary antioxidants - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S1095643302003689>

# Article summary:

1. Oxygen is vital for organisms but can also cause damage to key biological sites. To counteract this, antioxidants have evolved in parallel with our oxygenic atmosphere.

2. Plants use antioxidants to defend against reactive oxygen species (ROS) produced during photosynthesis. Humans are also exposed to these oxidants and have evolved an effective antioxidant system.

3. Plant-based, antioxidant-rich foods have traditionally been a major part of the human diet and are believed to play a crucial role in maintaining human health. However, modern diets may not provide sufficient amounts of dietary antioxidants, leading to increased risk of oxidative damage and chronic diseases.

# 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:

The article titled "Evolution of dietary antioxidants" provides an overview of the role of antioxidants in human health and their evolution in response to oxygenic threat. While the article presents some interesting information, there are several potential biases and missing points of consideration that need to be addressed.

One potential bias in the article is its focus on plant-based dietary antioxidants. The author emphasizes the importance of plant-based foods in maintaining human health and suggests that our current diet, which is low in plant-derived antioxidants, may contribute to chronic diseases. However, there is limited discussion about other sources of antioxidants, such as animal-derived foods or synthetic supplements. This narrow focus on plant-based antioxidants may overlook important contributions from other sources.

Additionally, the article makes unsupported claims about the role of dietary antioxidants in preventing oxidative damage and age-related diseases. While there is evidence to suggest that oxidative stress plays a role in these conditions, it is not clear whether increasing antioxidant intake through diet or supplements can effectively prevent or treat them. The article does not provide a balanced view by discussing conflicting evidence or alternative explanations for these associations.

Furthermore, the article fails to explore potential risks associated with high antioxidant intake. While antioxidants are generally considered beneficial for health, excessive intake can have negative effects. For example, some studies have suggested that high-dose antioxidant supplements may increase mortality risk in certain populations. This potential risk should be acknowledged and discussed alongside the benefits of dietary antioxidants.

The article also lacks a comprehensive analysis of the evolutionary cost-benefit trade-offs associated with losing the ability to produce ascorbic acid (vitamin C). The author briefly mentions this topic but does not delve into the potential advantages or disadvantages of this evolutionary change. A more thorough exploration of this issue would provide a more nuanced understanding of why humans lost this ability while still requiring vitamin C.

In terms of missing evidence, the article does not provide specific references or citations for many statements made throughout the text. This makes it difficult for readers to verify the accuracy of the information presented or to further explore the topics discussed. Including proper citations would enhance the credibility and reliability of the article.

Overall, while the article provides some interesting insights into the evolution of dietary antioxidants, it is limited by potential biases, unsupported claims, missing points of consideration, and missing evidence. A more balanced and comprehensive analysis would strengthen the article's arguments and provide a more accurate representation of the current scientific understanding of dietary antioxidants.

# Topics for further research:

* Role of animal-derived antioxidants in human health
* Conflicting evidence on the effectiveness of dietary antioxidants in preventing oxidative damage and age-related diseases
* Risks associated with high antioxidant intake and mortality risk
* Evolutionary cost-benefit trade-offs of losing the ability to produce ascorbic acid (vitamin C)
* Advantages and disadvantages of humans requiring vitamin C while losing the ability to produce it
* Specific references and citations on the role of antioxidants in human health and their evolution

# Report location:

<https://www.fullpicture.app/item/8028bfd319be338212cbfd21a39b0f67>