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Haematococcus astaxanthin: applications for human health and nutrition

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Abstract

The carotenoid pigment astaxanthin has important applications in the nutraceutical, cosmetics, food and feed industries.

Haematococcus pluvialis is the richest source of natural astaxanthin and is now cultivated at industrial scale. Astaxanthin is a strong coloring agent and a potent antioxidant – its strong antioxidant activity points to its potential to target several health conditions. This article covers the antioxidant, UV-light protection, anti-inflammatory and other properties of astaxanthin and its possible role in many human health problems. The research reviewed supports the assumption that protecting body tissues from oxidative damage with daily ingestion of natural astaxanthin might be a practical and beneficial strategy in health management.

Article Outline

1. Bioavailability and pharmacokinetics
2. Astaxanthin as an antioxidant
3. Astaxanthin as a photoprotectant
4. Astaxanthin and eye health
5. Astaxanthin and skin health
6. Astaxanthin and inflammation
7. Astaxanthin and heart health
8. Astaxanthin and cellular health
9. Anti-cancer properties of astaxanthin
10. Astaxanthin in detoxification and liver function
11. Astaxanthin and the immune response
12. Astaxanthin and neurodegenerative diseases
13. Safety of *Haematococcus* astaxanthin
14. Production and future of *Haematococcus* astaxanthin
15. Conclusion

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