

Scientific Summary (DHA)

What is DHA?

Docosahexaenoic acid (DHA) is a long-chain omega-3 polyunsaturated fatty acid (22:6 n-3) that forms an essential structural component of neuronal and retinal membranes. It is the most abundant omega-3 in the gray matter of the brain and photoreceptor layer of the retina, where it maintains membrane fluidity, neurotransmission, and phototransduction.¹

Why is it Important?

Adequate DHA supports neurodevelopment, cognition, visual function, and cardiovascular health throughout life. Because the human body converts α -linolenic acid (ALA) to DHA only in very small amounts, optimal tissue levels depend largely on direct DHA intake from diet or supplementation.¹

How Algal DHA Differs from Fish-oil DHA?

Algal DHA, derived from *Schizochytrium* sp., is a vegan, mercury-free source of DHA. Commercial algal oil formulations typically contain ~40 % DHA, which is often higher than the ~12 % DHA present in many natural fish oils. It is produced via controlled fermentation, reducing reliance on wild marine fisheries and minimizing contaminant exposure.²⁻⁴

One clinical or evidence-based benefit

Clinical evidence demonstrates that maternal supplementation with 300 mg/day of algal DHA significantly reduces early preterm delivery (1.7 % vs 5.7 % in controls) and prolongs gestational length by approximately four days, while improving infant visual and cognitive outcomes.⁴

References

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