



Omega-3 Fatty Acids

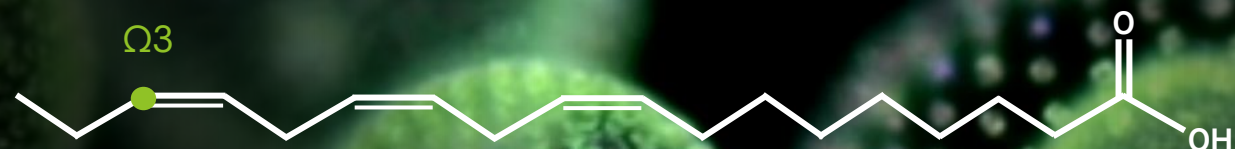
the powerful allies to our health

We need

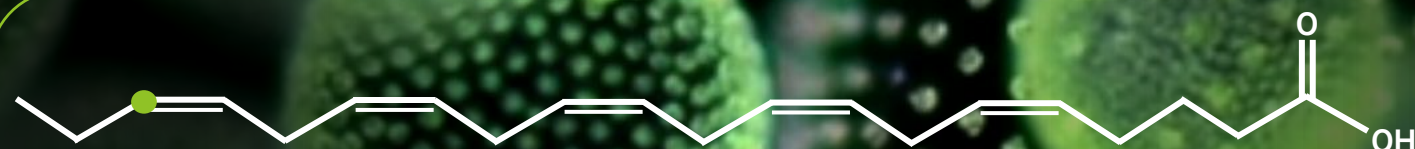
Omega-3



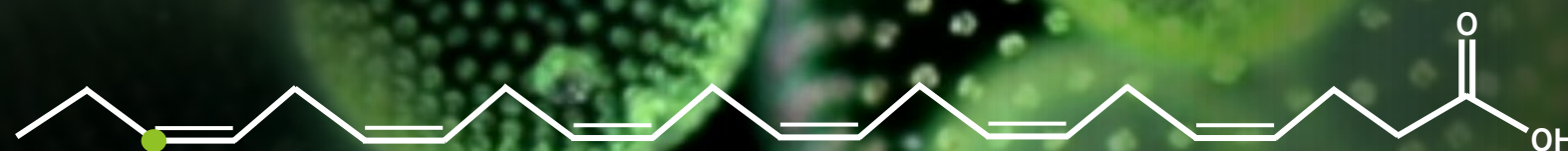
What are Omega-3 Fatty Acids?



ALA Alpha-linolenic acid



EPA Eicosapentaenoic acid



DHA Docosahexaenoic acid

Long-chain polyunsaturated Omega-3 Fatty Acids



A very good fat, polyunsaturated and essential



Critical to overall health and well-being at all stages of life



Includes **EPA + DHA**, scientifically proven for **brain, vision, heart, and overall health**.
Conversion of ALA into EPA and DHA is only limited

The Inuit Paradox

In the 70s a team of Danish scientists lead by Dyerberg became fascinated with the Inuit people in Greenland who consumed a very high fat diet (primarily whale and seal blubber and fatty fish) yet had virtually no incidence of acute heart attack. They began to explore this apparent outlier population.

1971 – in a paper on Inuit diet, the first findings on the role of Omega-3 fatty acids in human diet



Dr. Jorn Dyerberg



Fish Oil Omega-3 has provided essential nutrients for centuries

Science-backed health benefits are well documented.



40,000
scientific
papers

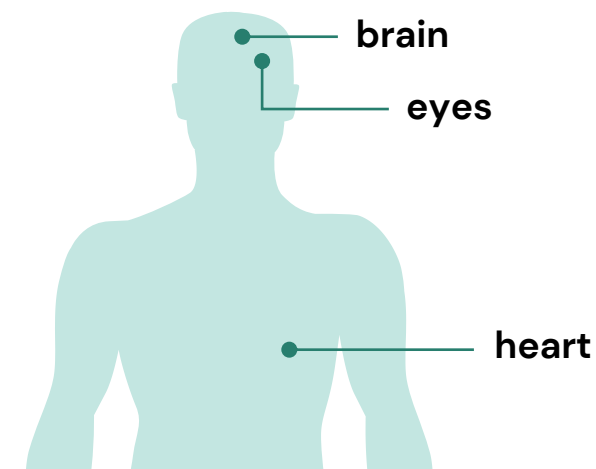
4,000
Human trials



Dr. Jorn Dyerberg

EPA+DHA Omega-3 fatty acids are essential

across the body, across the life span



Health claims granted by EFSA

DHA intake contributes to the normal **visual development** of infants up to 12 months of age.

DHA maternal intake contributes to the normal **development of the eye** of the foetus and breastfed infants.

DHA maternal intake contributes to the normal **brain development** of the foetus and breastfed infants.

DHA and EPA contribute to the maintenance of normal **blood pressure**.

DHA and EPA (and DHA alone) contribute to the maintenance of normal **blood triglyceride levels**.

DHA contributes to the maintenance of **normal vision**.

EPA and DHA contribute to the normal **function of the heart**.

DHA contributes to the maintenance of normal **brain function**.

From a public health perspective, at least 250 mg of EPA and DHA per day is recommended for adults

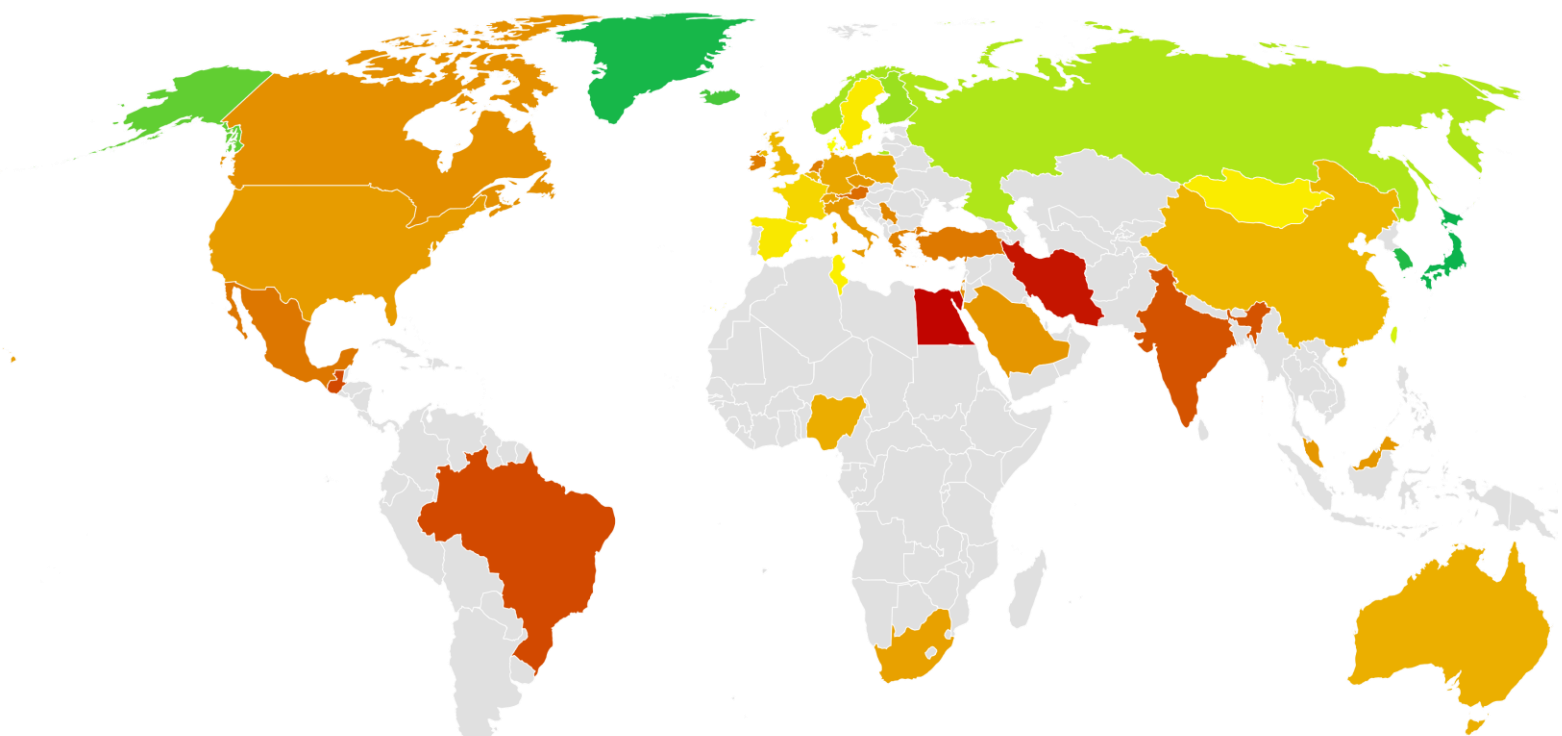
Recommendations for Omega-3s EPA+DHA		
FAO ¹	Children 2–18 y	Body weight-dependent
	Adults	250 mg
EFSA ²	Children 2–18 y	250 mg
	Adults	250 mg
	Pregnant & lactating women	350–450 mg
Global expert panel ³	Pregnant women (deficient)	600–1000 mg [#]

1. The Joint WHO/FAO expert consultation on fats and fatty acids in human nutrition Report of an expert consultation 2008
2. EFSA Journal 2010
3. Panel represented six international medical-scientific associations; Cetin Am J Obstet Gynecol MFM 2024
[#] EPA+ DHA or DHA

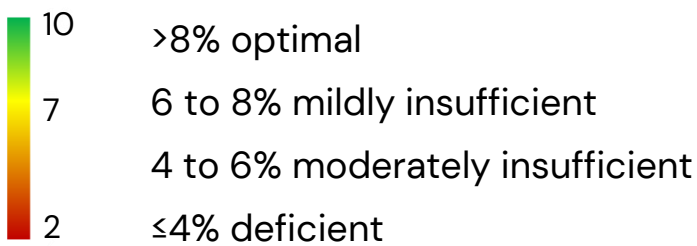
Globally, low Omega-3 fatty acid levels indicate that underconsumption is common

94% of the global population is insufficient and 47% is deficient

% of EPA+DHA in red blood cell fatty acids



Mean Omega-3 Index (%)



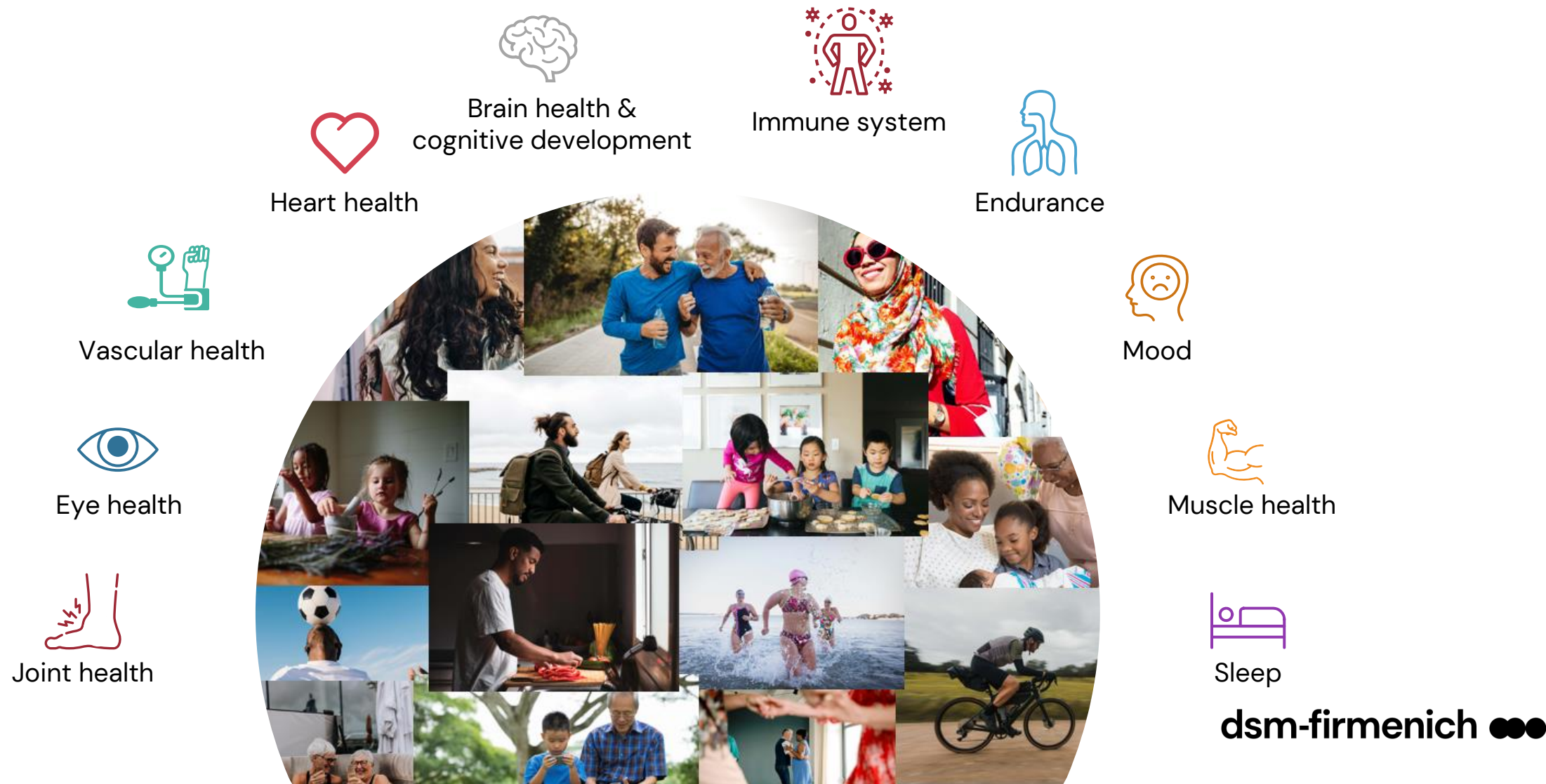
Omega-3 Index Levels²

- >8%: Associated with better heart health and overall wellbeing
- 4–8%: Moderate risk
- ≤4%: Deficient, high risk for cardiovascular disease

1. Schuchardt et al. Prog Lipid Res 2024
2. Harris & von Schacky Nat Commun 2004
O3I: Omega-3 index

Omega-3 fatty acids provide a lifetime of health benefits

Besides the well-known benefits of Omega-3s for heart, brain and eye health, EPA and DHA can address a broad spectrum of other wellness concerns.





Mood boosting potential

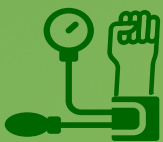
Growing evidence shows that EPA and DHA may have a promising impact on symptoms associated with mood disorders. High quality trials indicate that Omega-3 fatty acids consumption causes lower depression scores.

Additional research has revealed that extra Omega-3s helps women maintain a healthy mood during pregnancy and after giving birth too; addressing depression concerns during this phase of life.



Dreaming of a good night's sleep

A growing amount of evidence highlights the possible benefits of Omega-3s for sleep throughout life. Science shows that EPA and DHA may improve sleep quality in adults, and DHA increases sleep length in children. DHA may be associated with melatonin production – an important hormone that helps us fall asleep.



A winning ingredient for sports performance

Omega-3s deliver many benefits for key aspects of sports performance, including muscle recovery after physical activity. Cardio-respiratory fitness (the ability of the circulatory and respiratory systems to supply oxygen to skeletal muscles during sustained exercise) is another area that benefits from Omega-3 intake. Here, EPA and DHA help to decrease heart rate and oxygen consumption during physical activity, and further research shows that they may improve heart rate recovery after exercise too.





Science quickly advanced. Technology as well!

Going straight to the source: algae

We were used to eating fish to get the amount of Omega-3 we need but fish don't make Omega-3s. They get them from the microalgae they eat. And so can we.

The pioneer of Omega-3 algal oils

dsm-firmenich has a proud heritage as Martek Bioscience

► Early 80s

NASA scientists discovered the oceans' abundant microalgae is a rich source of DHA

► 1985

our labs have been built on that research to pioneer using algae-based DHA Omega-3s in baby milk

► Till today,

250 million babies worldwide have grown up consuming *life'sDHA*®



The history continues

After screening more than 500 algae strains, dsm-firmenich scientists isolated a strain producing both EPA and DHA.



life's[®]OMEGA

the first and only commercially available plant-based Omega-3 that delivers the benefits of both EPA and DHA in a single quality source while letting marine ecosystems and fish populations recover



From Algae, Not from Fish
No Marine Contamination



EPA & DHA
From Single Strain



Water Extraction
No Use of Ethanol

230+

of
Patent



There are 7.7 billion people on this planet expecting to rise to 9.8 billion by 2050



94% of people do not get enough Omega-3 ($\geq 250\text{mg}$) from their daily diet



Fish supply is not limitless: 1/3 of fisheries are overfished and 2/3 are at their maximum sustainable yield

There's not enough Omega-3 from **fish** to feed the world's growing population **now** and in the **future**

***life's*® portfolio of Omega-3 algal oils**

a limitless, sustainable and ocean-friendly
supply of Omega-3

dsm-firmenich expertise as a climate,
nutrition and health leader to go straight
to the source: **algae**

A limitless source of Omega-3 to bring their
multiple benefits to an even greater number
of people around the world



Do you have questions or want to
continue the conversation?
Get in touch!

Please contact **Elisabetta Nisoli**, elisabetta.nisoli@dsm-firmenich.com



We bring progress to life