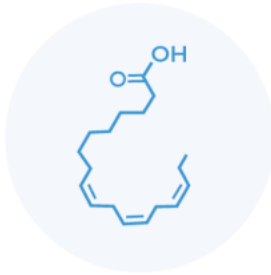# Omega-3 fatty acids

Also known as omega-3s, omega-3 fatty acids are polyunsaturated fatty acids (PUFAs) consisting of long carbon chains with two or more double bonds.

Key types of omega-3s

Mostly plant sources

Animal sources
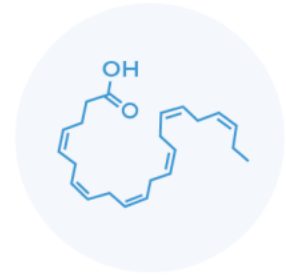
ALA
α-Linolenic acid

18 carbon
3 double bonds

EPA
Eicosapentaenoic acid

20 carbon
5 double bonds

DHA
Docosahexaenoic acid

22 carbon
6 double bonds

Omega-3s by the numbers

15:1
ratio of omega-6 to omega-3 in the standard American diet

40
mg/day
of EPA+DHA is consumed from foods by U.S. children and teens

90
mg/day
of EPA+DHA is consumed from foods by U.S. adults

1,000
mg/day
of EPA+DHA is recommended for adults*

*Recommended by the American Heart Association

Omega-3s work by:

Exhibiting anti-inflammatory effects

Improving symptoms of rheumatoid arthritis

Playing a structural role in cell membranes

Protecting against cardiovascular disease

Reducing the risk of cognitive decline and dementia

Supporting infant health and neurodevelopment during pregnancy

Omega-3 foods

Grass-fed beef
0.04 g of ALA/3 oz

Kidney beans
0.10 g of ALA/1/2 cup

Edamame
0.28 g of ALA/1/2 cup

Walnuts
2.57 g of ALA/oz

Flaxseeds
2.35 g of ALA/tbsp

Flaxseed oil
7.26 g of ALA/tbsp

Oysters
0.14 g of ALA/3 oz
0.23 g of DHA/3 oz
0.30 g of EPA/3 oz

Wild-caught trout
0.44 g of DHA/3 oz
0.40 g of EPA/3 oz

Herring
0.94 g of DHA/3 oz
0.77 g of EPA/3 oz

Wild-caught salmon
1.22 g of DHA/3 oz
0.35 g of EPA/3 oz

Vegetarian and vegan-friendly

Did you know?

Generally, our bodies convert **less than 15%** of ALA to EPA and DHA, making it important to consume pre-formed EPA and DHA from the diet and/or supplements.

Omega-3 supplements

Source	Primary form(s) of omega-3s	Common composition	Bioavailability (absorption rate)
Algal oil 🌿	Triglycerides	30-50% DHA May contain smaller amounts of EPA	Comparable to fish or natural fish oil
Natural fish oil	Free fatty acids (FFAs) and triglycerides	18% EPA 12% DHA	Standard used for bioavailability comparison
Concentrated fish oil	Ethyl esters	29% EPA 21% DHA	↓ compared to natural fish oil
	Re-esterified triglycerides (rTG)	29% EPA 20% DHA	↑ compared to natural fish oil
Cod liver oil	Natural triglycerides	8% EPA 11% DHA Vitamins A and D	Comparable to natural fish oil
Krill oil	Phospholipids	11% EPA 6% DHA Astaxanthin	↑ compared to natural fish oil
Mussel oil (green-lipped mussel)	Over 60 lipid compounds	3% EPA 2% DHA Other PUFAs (e.g., ETA, OTA)	Varied; depends on primary class of omega-3s in the product

🌿 Vegetarian and vegan-friendly

Tips for supplementing

Omega-3s may be better absorbed when consumed with a source of fat.

You can reduce "fishy burps" by taking your supplement at the start of a meal and/or taking softgels that have been frozen.

Store omega-3 supplements in the fridge or freezer to prolong freshness.

Fullscript