naturmega

Lipid Science Innovation
for Health & Nutrition Brands





ruby-O®

Powered by BPL-O3™ Technology.

RUBY-O® AT A GLANCE

The lipid architecture that takes omega-3 beyond absorption

Four core advantages. A new way to deliver omega-3.



01

Biomimetic by design

We design with biology in mind. Ruby-O® emulates the body's natural lipid structures and transport systems to facilitate a more efficient journey to target tissues.

02

A patented bonded architecture

EPA and DHA are enzymatically bonded to functional phospholipids, along with glycolipids and naturally occurring choline, creating a unique, stable structure.

Bonded, not blended.

03

From absorption to cellular incorporation

Designed to be recognized, transported and integrated into cell membranes, supporting higher bioavailability and meaningful physiological outcomes.

04

A platform for formulation freedom

A versatile, neutral-tasting ingredient that enables multiple formats and diverse applications across key health categories, from softgels to beverages, gummies and powders.

ruby-O®

Next-Gen Enhanced Omega-3.

01 · THE OMEGA-3 CHALLENGE

Higher doses don’t solve the omega-3 non-responder problem

ruby-O®
Next-Gen Enhanced Omega-3.

Many consumers see little change in triglycerides or Omega-3 Index, and higher doses mean more capsules, not better results.

Ruby-O® gives brands a different answer: **better lipid structure, not a bigger dose,** for more performance at a dose consumers keep taking.



Where Ruby-O® gives brands an edge:

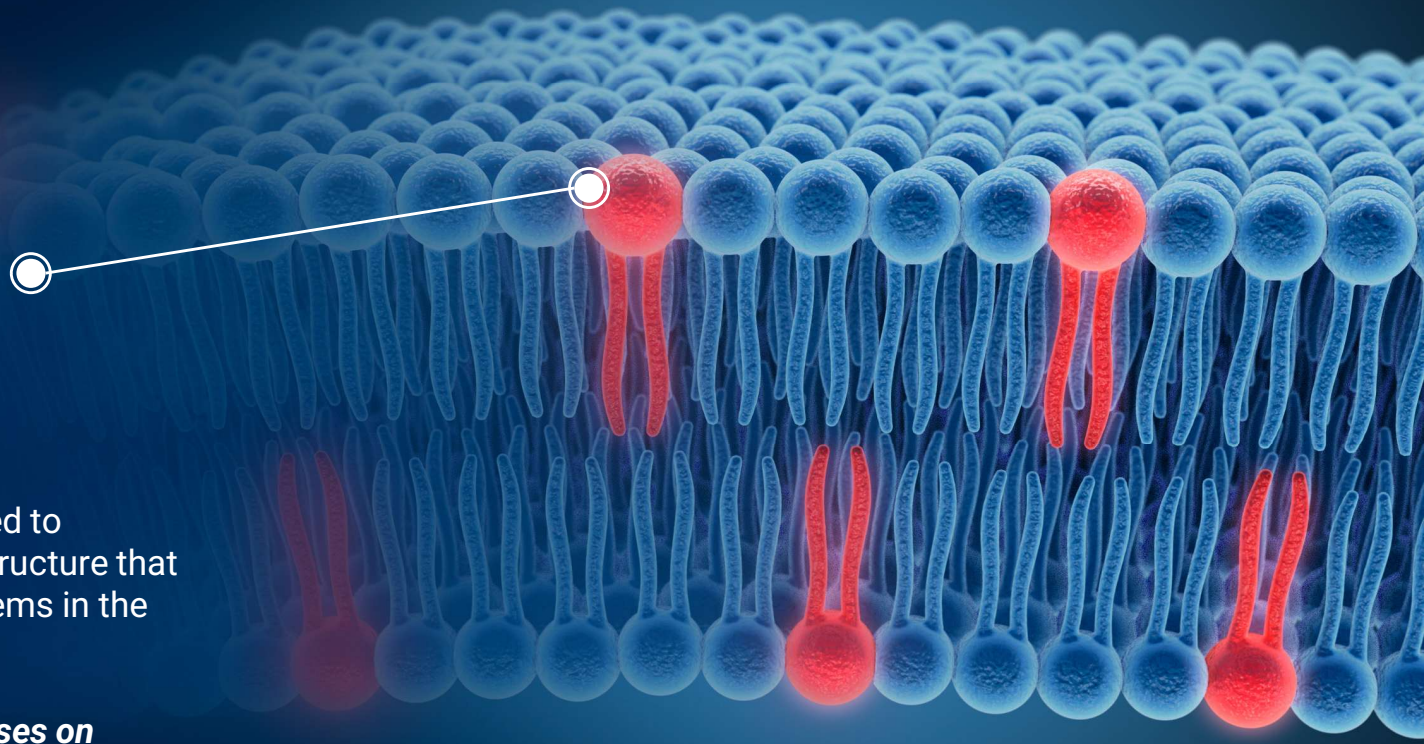
Cardiometabolic lines
Heart and lipid health formulas

Fish-oil-sensitive consumers
Effective at a lower daily dose

Daily-use products
Built for long-term adherence

ruby O®

Next-Gen Enhanced Omega-3.



Omega-3 in the form the body already carries: Phospholipids

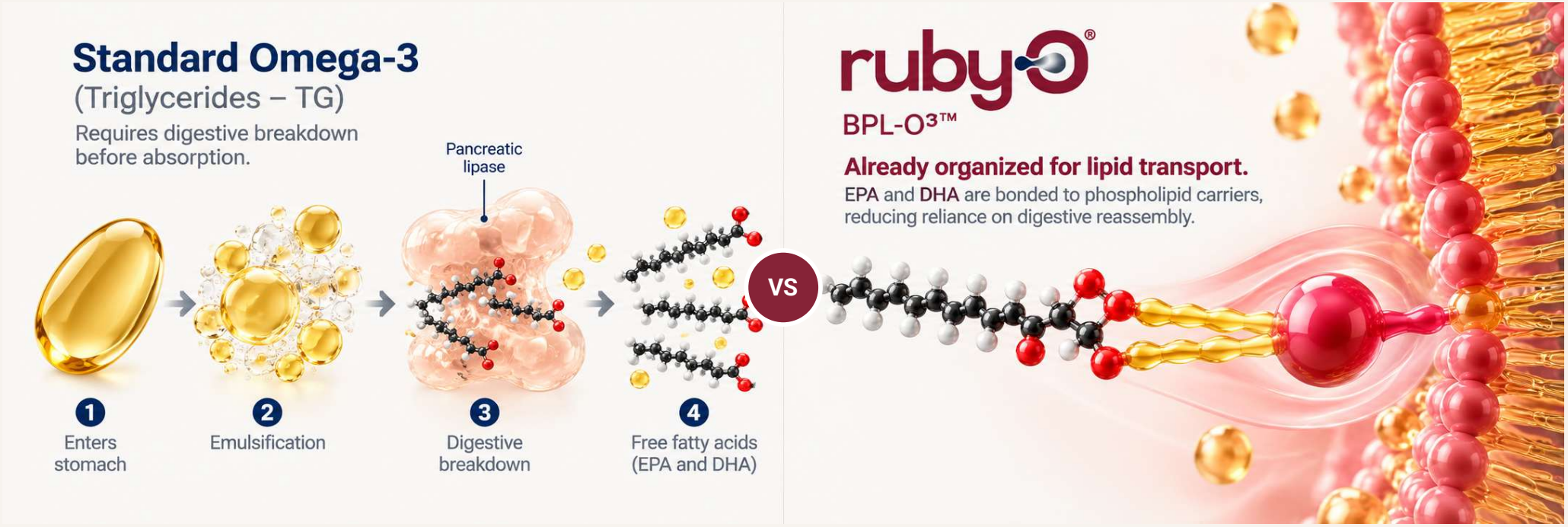
Ruby-O® is designed using omega-3 bonded to functional phospholipids, creating a lipid structure that is more aligned with natural transport systems in the body.

Rather than increasing dose, Ruby-O® focuses on optimizing structural design.

02 · BIOMIMETIC DESIGN

Designed to work with lipid biology, not around it.

Biomimetic design draws inspiration from the structures and pathways biology already uses.



BIOLOGICAL ARCHITECTURE
Built with phospholipid carriers

NATURAL LIPID TRANSPORT
Designed around structures biology already uses

LESS DIGESTIVE REASSEMBLY
EPA + DHA already bonded to phospholipids

Biology provides the blueprint. **Ruby-O® builds from it.**

02 · BIOMIMETIC DESIGN

Bonded, not blended: omega-3 joins the phospholipid structure

Ruby-O® uses proprietary enzymatic technology to bond omega-3 to phospholipids.

CONVENTIONAL PHOSPHOLIPID OMEGA-3

Blended

Omega-3 and phospholipids remain separate molecules within the same blend.



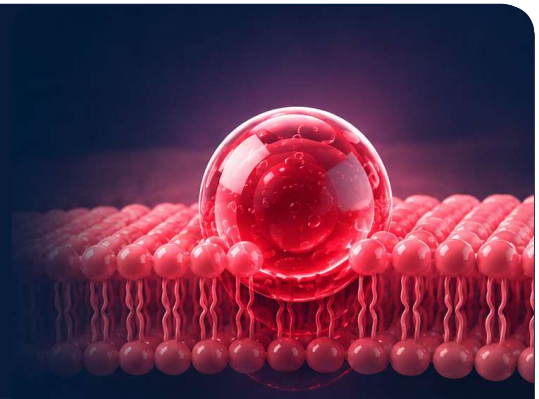
- Mixed, not integrated
- No molecular bond
- Limited design flexibility
- No designed carrier relationship

VS

RUBY-O® TECHNOLOGY

Bonded

EPA and DHA become part of the phospholipid structure itself.



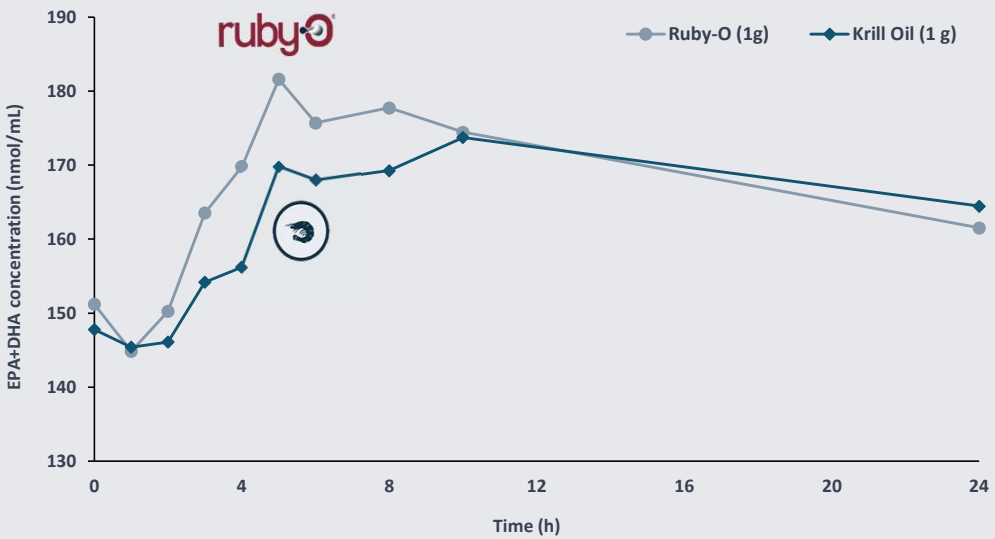
- True molecular integration
- Designed lipid delivery
- Unlocks new lipid architectures
- Compatible with complementary bioactives

03 · CLINICAL EVIDENCE

Ruby-O® peaks higher and faster than krill oil

Ruby-O delivers omega-3 in a form the body recognizes and uses more efficiently, resulting in faster uptake and higher peak levels compared to krill oil.

Ruby-O® delivers more omega-3 to the bloodstream, **and gets there quicker than krill oil!**



Mean (SE) of eicosapentaenoic acid + docosahexaenoic acid plasma concentrations over 24 h after a single oral dose of phospholipid-enhanced fish oil or krill oil (N=24).

25% higher EPA+DHA peak concentration

2.4 hours faster to reach EPA peak

62% more EPA+DHA per capsule

No fishy aftertaste or digestive discomfort

**Based on clinical data comparing phospholipid-enhanced omega-3 (Ruby-O) with krill oil following a single oral dose. Data from Guarneri et al., 2023 and Chevalier et al., 2021.*

03 · CLINICAL EVIDENCE

Ruby-O® Balance formulation: better responder rates at a lower dose

12-week randomized, double-blind pilot trial vs standard omega-3 in 44 adults with mild-to-moderate hypertriglyceridemia

2.75×

more people reached triglyceride targets
50% vs 18% at final TG ≤166 mg/dL

63.6%

reached the target Omega-3 Index
vs 36.4% with standard omega-3

–9.1

mg/dL mean triglyceride change
vs +15.2 mg/dL with standard omega-3

All with less omega-3: **825 vs 903 mg/day EPA+DHA**

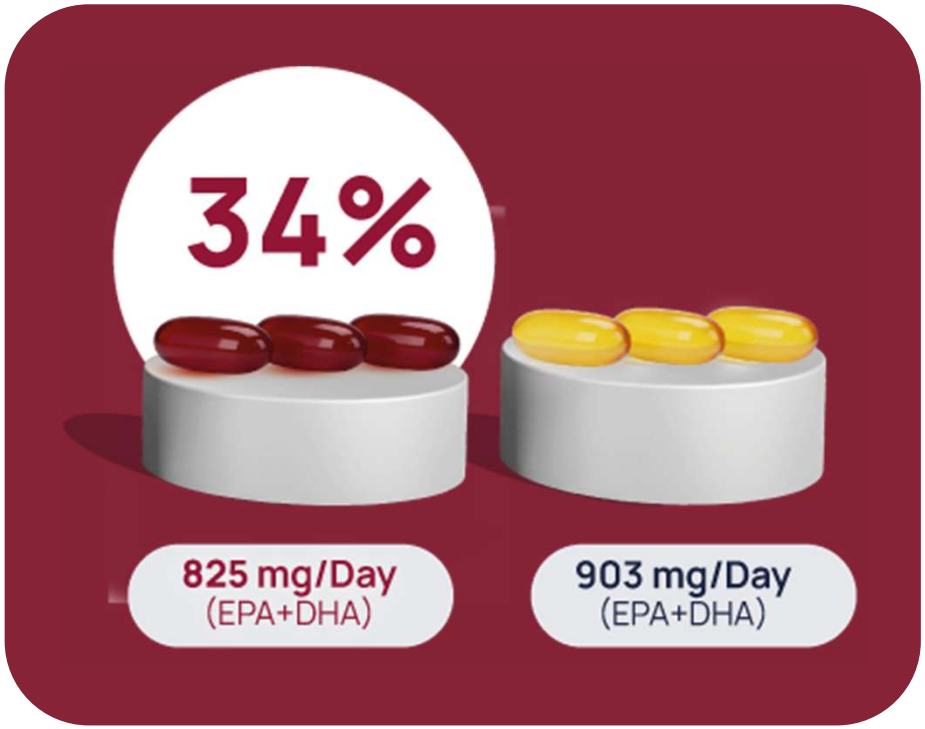


Pilot, proof-of-concept trial; a larger confirmatory trial is being planned. Source: Urina-Triana et al., BMC Complementary Medicine and Therapies, 2026;26:48

03 · CLINICAL EVIDENCE

34% more Omega-3 Index per mg than fish oil

Ruby-O® was evaluated in a 12-week human clinical study against conventional fish oil.*



KEY FINDINGS

+34%

Omega-3 Index per mg

More Omega-3 Index from every mg

Ruby-O® raised the Omega-3 Index **34% more per mg** of EPA+DHA than fish oil, with faster, higher EPA uptake.

–9%

daily EPA+DHA dose

Better results at a lower dose

Ruby-O® reached **more responders with 825 mg/day** of EPA+DHA, vs 903 mg/day for fish oil.

Ruby-O® changes ***how*** **omega-3 enters the body.**

*12-week randomized, double-blind pilot trial in adults with mild-to-moderate hypertriglyceridemia: Ruby-O® Balance formulation (825 mg/day EPA+DHA) vs standard omega-3 (903 mg/day), 3 capsules per day. Source: Urina-Triana et al., BMC Complementary Medicine and Therapies, 2026;26:48

04 · TARGETED DELIVERY

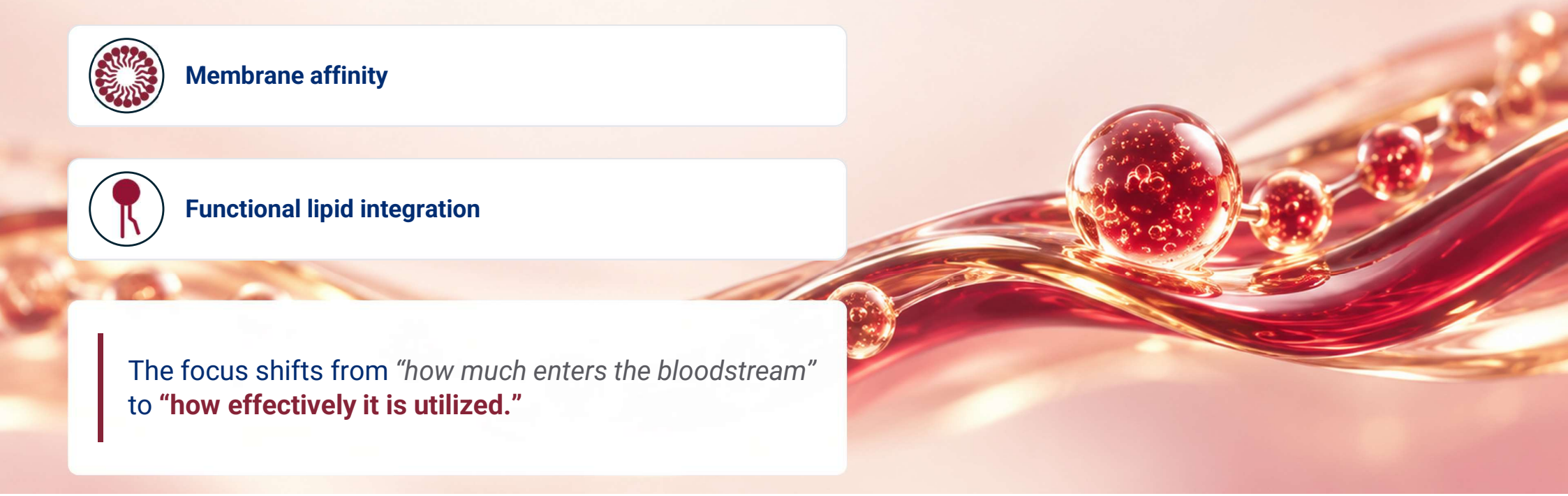
Benefit depends on utilization, not just absorption

ruby-O®
Next-Gen Enhanced Omega-3.

Absorption alone does not guarantee clinical relevance.

Ruby-O® is designed to support:

- **Efficient transport within biological systems**
- **Membrane affinity**
- **Functional lipid integration**



> The focus shifts from *"how much enters the bloodstream"* to **"how effectively it is utilized."**

One lipid architecture, tuned to each health goal

Biology provides the blueprint; Ruby-O turns it into a designable platform.

Biomimetic by design

Phospholipids build cell membranes, so the body already recognizes the structure.

Natural lipid carriers

A water-facing and lipid-facing structure organizes and transports fats.

Cellular incorporation

Designed to keep working after omega-3 enters the blood.

Built beyond the source

Aligns source, EPA/DHA profile, phospholipid structure and nutritional goal.



ADAPTABLE TO

Aligned with targeted clinical strategies

EPA + DHA

Different omega-3 concentrations

Varying phospholipid ratios

Specific health applications

05 · FORMULATION SCIENCE

Ruby-O®’s structure opens formats beyond the softgel

The most distinctive part of Ruby-O® is what its technology enables.

Its bonded phospholipid architecture combines oil-loving and water-loving regions, helping the lipid organize at the oil-water interface.

The structure creates formulation freedom



Molecular architecture

EPA and DHA bonded to phospholipids rather than free triglycerides.

Amphiphilic behavior

Water- and oil-friendly at once, which is what makes new formats possible.

Emulsified systems

Stable dispersion in beverages, gels, shots and creams.

From a lipid platform to consumer experiences people can sustain

A phospholipid-rich pre-emulsion matrix helps brands move beyond capsules and design omega-3 around the routine they want consumers to adopt.

One platform, multiple directions: liquids, shots, gels, gummies, pouches and other familiar daily formats.

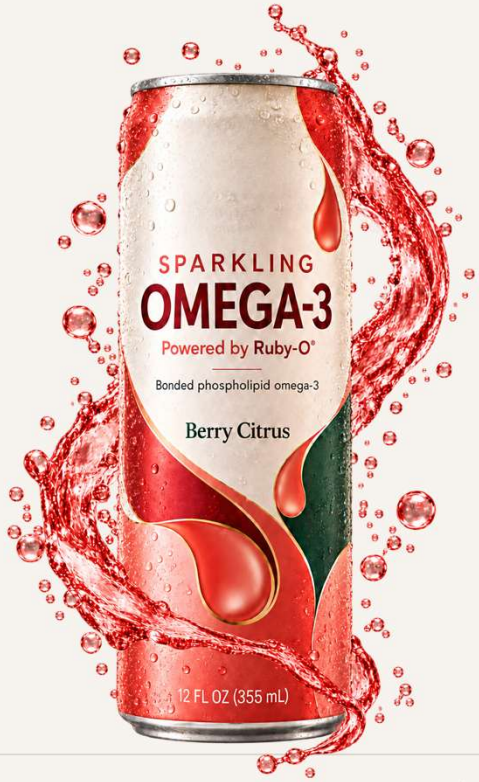
FISH-OIL VERSION

EPA + DHA

ALGAL-OIL VERSION

DHA-focused

From formulation platform to everyday experiences



WHAT THE MATRIX UNLOCKS FOR BRANDS

EXPAND THE FORMAT PORTFOLIO

Beverages, shots, drops, gummies, hydrogels and pouches

DESIGN AROUND THE CONSUMER MOMENT

Daily routines, on-the-go nutrition and easier ways to take omega-3

CREATE DISTINCT PRODUCT STORIES

Fish-based EPA + DHA or algae-based DHA across source-led or benefit-led concepts

Each application requires format-specific work on stability, sensory performance and dose uniformity.

Ruby-O® BALANCE

Clinically Proven. Ready to Launch.

Helps up to 2.75× **more individuals move out of cardiovascular risk** ranges by reaching healthier triglyceride levels versus conventional fish oil, **at a lower omega-3 dose, while delivering 34%** greater Omega-3 Index improvement.



- Supported by human clinical study
- Lower dose, better compliance
- Addresses the non-responder problem
- Ideal for cardiometabolic positioning
- Clean, premium, science-backed story

This is your fastest clinical-backed omega-3 launch.



*Based on Ruby-O® Balance clinical study.



Hero Branded Ingredient

BeyondKrill™ X2

Next-generation phospholipid Omega-3 ingredient inspired by what made krill compelling but designed to go beyond.

Double the strength.
More phospholipids bonded to Omega-3
Superior Absorption and Delivery

BeyondKrill™ X2

Double the Strength. Same Serving

naturmega



BeyondKrill X2

Serving Size: 2 softgels (500 mg)	1000 mg total
Total EPA + DHA:	450 mg
Total EPA:	250 mg
Total DHA:	200 mg
Total Phospholipids:	300 mg
Phospholipids Bonded to EPA + DHA:	120 mg (Higher than krill oil)

VS

Krill Oil

Serving Size: 2 softgels (500mg)	1000 mg total
Total EPA +DHA:	176 mg
Total EPA:	120 mg
Total DHA:	56 mg
Total Phospholipids:	400 mg
Phospholipids Bonded to EPA + DHA:	80mg*



More phospholipids bonded to EPA + DHA, thanks to BPL-O3™ technology.

** EPA + DHA – Bonded Phospholipids determined by internal analytical methods based on chromatography and NMR.*

ruby-O | naturmega

06 · BRAND OPPORTUNITY

ruby-O®

Why brands build on Ruby-O®

One **patented, clinically studied** omega-3 platform: differentiated products today and a pipeline for what comes next.

Formulas for every category

Adjust EPA/DHA levels and pair with CoQ10, choline, folate or other lipids for brain, heart, prenatal, sports and healthy-aging lines.

Clinically backed claims

Human studies against fish oil and krill oil give your brand a credible, premium science story.

Lower effective dose

Better responder rates than fish oil at a lower omega-3 dose, so servings can be smaller and easier to stick with.

Formats beyond the softgel

Stable nanoemulsions, even at acidic pH, open the door to new consumer formats on the same ingredient.

Defensible differentiation

A patented bonded architecture that a simple blend cannot copy. Your story starts with a real structural difference.

Ready to launch. Built to grow.

Start with Ruby-O® Balance or BeyondKrill™ X2, then extend into new concepts on the same proven foundation.



ruby-O®

Next-Gen Enhanced Omega-3.

5 Claims Brands Can Build On

Ruby-O® is more than an ingredient, it's a next-generation omega-3 platform brands can build on.

1 Designed to Work the Way Your Body Uses Omega-3

Inspired by biology, not chemistry.
Ruby-O is designed around how omega-3 appears in nature and how the body recognizes and utilizes lipids, supporting smarter absorption and use.

2 More Benefit per Serving

Smarter delivery, not higher doses.
Ruby-O focuses on omega-3 efficiency, delivering more functional benefit per mg and enabling fewer capsules with meaningful outcomes.

3 Improves Omega-3 Levels in the Body

What matters is what your body builds.
Ruby-O demonstrated **34% greater omega-3 incorporation efficiency**, measured by the Omega-3 Index per mg of EPA+DHA, versus standard fish oil.

4 Broader Health Signals

Omega-3 works systemically, not in silos.
Improved omega-3 utilization supports broader cardiometabolic signals, enabling more holistic wellness positioning beyond a single marker.

5 Helps More People Reach Healthy Triglycerides

Designed to close the omega-3 response gap.
In a 12-week clinical study, Ruby-O® Balance achieved up to 2.75× **greater triglyceride target attainment** versus standard fish oil, despite a lower omega-3 dose.

Based on a 12-week clinical study comparing Ruby-O® Balance with standard fish oil. "Up to 2.75×" refers to triglyceride **target attainment at predefined thresholds (≤166, ≤156, ≤150 mg/dL). Omega-3 efficiency refers to **34% greater omega-3 incorporation**, measured by the Omega-3 Index per mg of EPA+DHA*

MEDIA COVERAGE

Trade media are covering Ruby-O® as a new omega-3 frontier

Selected coverage in nutraceutical industry publications. Click any card to open the article.



Naturmega's biomimetic Ruby-O improves omega-3 delivery for heart health

Read article →



Naturmega's Ruby-O shows bioavailability edge over standard fish oil in peer-reviewed trial

Read article →



Molecular lipid architecture emerges as a new frontier in omega-3 nutrition

Read article →



Beyond krill: A new phospholipid frontier is emerging in omega-3

Read article →



Naturmega advances Ruby-O clinical program with newly registered trial

Read article →

Naturmega at a Glance

Reliable solutions for today. Designed platforms for tomorrow.

naturmega®

Reliable Omega-3 for today's market needs

essenti omega® essenti omega nova

Standard and high-purity concentrates.
Consistent quality across EPA/DHA profiles.

algalis®

Algae-based Omega-3, from essential to premium DHA focused.

Powered By sensea®

No fishy taste or odor, and a clear color, across our high concentrates.



RECENTLY LAUNCHED

A supply-resilient hybrid Fish+Algae

Fermentation-derived algal oil blended with fish oil concentrates, built to decouple our supply from wild-catch volatility. We call it Dualis™.

Price stability | Supply continuity | Less crude exposure

Designed lipid platforms redefining the future of Omega-3

rubyO® | BPL-O3

Clinically validated Bonded Phospholipid Omega-3 platform designed for enhanced delivery and premium differentiation, supported by a growing body of scientific research.

BeyondKrill™ x2

Introducing the BeyondKrill™ Category: A bonded phospholipid Omega-3 solution delivering **twice the strength** of conventional krill oil for premium health applications.

Synergistic Combinations

Ruby-O+ CoQ10, lutein, zeaxanthin, and **other synergistic bioactives.**

ruby

FROM LIPID SCIENCE TO YOUR NEXT LAUNCH

Your next omega-3,
built on bonded lipid science

SCAN TO
Explore formulations, evidence and formats for your brand

CUSTOMIZE
Formulations, formats and benefits

EXPLORE
Science, ingredients and claims

CREATE
New possibilities for your brand

