ActivPower IRX

HUMAN KNOWLEDGE BASE • INGREDIENT SCIENCE

Green-Lipped Mussel for Human Joint Health & Mobility

A marine-sourced nutritional ingredient studied for its role in supporting joint comfort, mobility, and an active lifestyle.

IRx-ZEUS® | IRx-COGNEX® | Perna canaliculus | Omega-3 EPA · DHA · ETA

What Is Green-Lipped Mussel?

Green-Lipped Mussel (*Perna canaliculus*), also known as Greenshell™ Mussel, is a shellfish native to New Zealand. For decades, researchers have studied this marine ingredient because of its unique nutritional composition and its potential role in supporting joint health, mobility, and the body's natural inflammatory response.

Unlike many marine ingredients, Green-Lipped Mussel contains a naturally occurring combination of:

- Omega-3 fatty acids, including EPA, DHA, and **ETA** (eicosatetraenoic acid)
- Glycosaminoglycans (GAGs) and chondroitin-like compounds
- Amino acids
- Trace minerals
- Antioxidants

One of its most interesting components is eicosatetraenoic acid (ETA), a relatively uncommon omega-3 fatty acid that has attracted scientific interest for its potential influence on pathways involved in normal inflammatory processes.

How Does It Work?

Research suggests that compounds found in Green-Lipped Mussel may interact with biochemical pathways involved in the body's normal inflammatory response. Laboratory and preclinical studies indicate that certain lipid fractions may influence enzymes involved in inflammatory signaling, including the cyclooxygenase (COX) and lipoxygenase (LOX) pathways. Researchers have also observed effects on cellular markers such as IL-1β, IL-6, and TNF-α.

While these findings help explain possible mechanisms of action, additional human research is needed to fully understand their practical implications.

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What Does the Research Say About Joint Health?

The largest body of human research on Green-Lipped Mussel has focused on joint comfort, mobility, and physical function. Clinical studies and systematic reviews have reported improvements in measures related to:

- Joint comfort
- Mobility and physical function
- Activities of daily living
- Patient-reported quality of life

Researchers generally conclude that Green-Lipped Mussel may provide modest but meaningful support for joint-related quality-of-life outcomes in some individuals. However, study designs, formulations, and dosages vary considerably, making direct comparisons difficult.

Importantly, current evidence supports Green-Lipped Mussel as a **nutritional ingredient that may help support healthy joint function and mobility**, rather than an intervention intended to alter the progression of joint disorders.

Beyond Joint Health

Researchers are also exploring Green-Lipped Mussel's potential role in:

- Healthy aging
- Exercise recovery
- Maintaining physical function
- Supporting an active lifestyle

Preliminary evidence suggests it may help support recovery following strenuous exercise and maintain comfort associated with normal exercise-related stress, although this area of research remains in its early stages.

A Note on the Evidence

Green-Lipped Mussel is best understood as a nutritional ingredient that may support healthy joint function and mobility. It is not intended to alter the course of any joint disorder, and scientific understanding continues to evolve.

Safety & Tolerability

Published studies generally report Green-Lipped Mussel preparations to be well tolerated when consumed as directed. Reported side effects are typically mild and may include gastrointestinal discomfort, indigestion, or nausea. Individuals with shellfish allergies should avoid Green-Lipped Mussel products unless advised otherwise by a qualified healthcare professional. Individuals taking medications, including anticoagulants, should consult their healthcare provider before beginning any dietary supplement regimen.

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The Bottom Line

Green-Lipped Mussel is a nutrient-rich marine ingredient that has been the subject of decades of scientific investigation. Its unique combination of omega-3 fatty acids and other naturally occurring compounds continues to make it an ingredient of interest for supporting healthy joint function, mobility, and the body's normal inflammatory balance. While scientific evidence continues to evolve, it remains a promising nutritional option for individuals seeking ways to support musculoskeletal wellness and maintain an active lifestyle.

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IRx-ZEUS® & IRx-COGNEX® for Humans

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Selected References — Human Literature

1. Brien S, Prescott P, Coghlan B, Bashir N, Lewith G. Systematic review of the nutritional support of green-lipped mussel in osteoarthritis. *QJM.* 2008;101(3):167–179.
2. Abshirini M, Coad J, Wolber FM, et al. Green-lipped (greenshell™) mussel (*Perna canaliculus*) extract supplementation in the treatment of osteoarthritis. *Inflammopharmacology.* 2021;29:925–938.
3. Coulson S, Butt H, Vecchio P, Gramotnev H, Vitetta L. Green-lipped mussel extract (*Perna canaliculus*) and osteoarthritis of the knee. *Inflammopharmacology.* 2013;21(1):79–90.
4. Coulson S, Vecchio P, Gramotnev H, Vitetta L. Green-lipped mussel (*Perna canaliculus*) supplementation in osteoarthritis of the knee. *Inflammopharmacology.* 2012;20(2):71–76.
5. Jhun J, Na HS, Cho KH, et al. A green-lipped mussel reduces pain behavior and chondrocyte inflammation. *PLOS ONE.* 2021;16(12).

DISCLAIMER

The information presented in this article is provided solely for educational and informational purposes and summarizes selected scientific literature regarding Green-Lipped Mussel (*Perna canaliculus*). It is not intended to diagnose, treat, cure, mitigate, or prevent any disease or medical condition in humans.

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