ActivPower CANIS

CANINE KNOWLEDGE BASE • INGREDIENT SCIENCE

Green-Lipped Mussel for Canine Joint Health & Mobility

A marine-sourced nutritional ingredient studied to support joint comfort, mobility, and an active life in dogs.

ActivPower ATLAS® for Dogs | 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 for its unique nutritional composition and its potential role in supporting joint health, mobility, and the body's natural inflammatory response — including in companion animals such as dogs.

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 in mammals.

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 controlled canine research is needed to fully understand their practical implications for dogs.

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Research in Dogs

Green-Lipped Mussel has been evaluated in veterinary nutrition, particularly in aging dogs and dogs with joint concerns. Several controlled studies have assessed diets and supplements containing Green-Lipped Mussel as part of comprehensive nutritional programs designed to support mobility and quality of life.

Bierer & Bui (2002). Dogs fed a diet enriched with Green-Lipped Mussel showed measurable improvement in arthritic signs versus control over a feeding period.

Bui & Bierer (2003). Reported reductions in the total arthritic score — including joint pain, swelling, and crepitus — in dogs receiving Green-Lipped Mussel.

Pollard et al. (2006). A Green-Lipped Mussel extract was clinically evaluated and generally well tolerated in dogs presumptively diagnosed with degenerative joint disease.

Rialland et al. (2013). A Green-Lipped Mussel–enriched diet raised plasma omega-3 levels and improved objective gait (peak vertical force) in dogs with clinical osteoarthritis.

Vijarnsorn et al. (2019). A marine-based Green-Lipped Mussel fatty-acid compound was studied alongside a conventional comparator in dogs with osteoarthritis.

Corbee (2022). A supplement containing Green-Lipped Mussel with other botanicals was associated with improved mobility outcomes in dogs and cats with osteoarthritis.

As with human research, results vary by formulation, dose, and study design, and research is ongoing.

Joint Comfort, Mobility & Active Life

Across veterinary trials, Green-Lipped Mussel has been associated with modest but meaningful support for measures relevant to a dog's daily life, such as:

- Joint comfort and willingness to move
- Mobility and physical function
- Everyday activities — walking, climbing stairs, rising, and play
- Owner-reported quality of life

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

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Beyond Joint Support

Researchers are also exploring Green-Lipped Mussel's potential role in healthy aging, maintaining physical function, and supporting recovery and comfort associated with normal exercise-related stress in active and working dogs. This area of research remains in its early stages.

Safety & Tolerability

Published studies generally report Green-Lipped Mussel preparations to be well tolerated in dogs when fed as directed. Reported effects are typically mild and may include gastrointestinal upset. Dogs with known shellfish sensitivities should avoid Green-Lipped Mussel products unless advised otherwise by a veterinarian. Owners of dogs taking medications, or with existing health conditions, should consult their veterinarian before beginning any dietary supplement regimen.

The Bottom Line

Green-Lipped Mussel is a nutrient-rich marine ingredient that has been the subject of decades of scientific investigation, including a dedicated body of canine research. 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 normal inflammatory balance in dogs. It remains a promising nutritional option for pet owners seeking ways to support their dog's musculoskeletal wellness and active lifestyle.

FEATURED IN

ActivPower ATLAS® for Dogs

Selected References — Canine Literature

1. Bierer TL, Bui LM. Improvement of arthritic signs in dogs fed green-lipped mussel (*Perna canaliculus*). *J Nutr.* 2002;132(6):1634S–1636S.
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3. Pollard B, Guilford WG, Ankenbauer-Perkins KL, Hedderley D. Clinical efficacy and tolerance of an extract of green-lipped mussel (*Perna canaliculus*) in dogs presumptively diagnosed with degenerative joint disease. *N Z Vet J.* 2006;54(3):114–118.
4. Rialland P, Bichot S, Lussier B, et al. Effect of a diet enriched with green-lipped mussel on pain behavior and functioning in dogs with clinical osteoarthritis. *Can J Vet Res.* 2013;77(1):66–74.
5. Vijarnsorn M, Kwananocha I, Kashemsant N, et al. The effectiveness of marine based fatty acid compound (PCSO-524) and firocoxib in the treatment of canine osteoarthritis. *BMC Vet Res.* 2019;15:349.
6. Corbee RJ. The efficacy of a nutritional supplement containing green-lipped mussel, curcumin and blackcurrant leaf extract in dogs and cats with osteoarthritis. *Vet Med Sci.* 2022;8(5):1903–1911.

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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*) in dogs. It is not intended to diagnose, treat, cure, mitigate, or prevent any disease or medical condition in animals.

Statements regarding dietary supplements and nutritional ingredients have not been evaluated by the U.S. Food and Drug Administration (FDA). Individual responses may vary. Pet owners should consult a qualified veterinarian before introducing any new supplement or nutritional ingredient into an animal wellness program. No claim beyond the educational discussion of current scientific literature is stated or implied.

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