



Greenshell Mussel Oil

PRODUCT DATA SHEET

GENERAL DESCRIPTION

For generations the native coastal Maori population of New Zealand has consumed raw New Zealand Green Lipped Mussels as a primary part of their diet. This unique mussel is known scientifically as 'Perna canaliculus'. For centuries, it has provided an excellent source of protein, vitamins, minerals and extremely valuable Omega-3 fatty acids. For many hundreds of years, the Maoris would harvest the mussels growing naturally on the seashores and would eat them raw. Even though they saw the mussel as an important part of their diet, they did not realise the benefits they were gaining. The Green Lipped Mussel possesses a profile of Omega-3 essential fatty acids which are unique to its species. The presence of this rich source of essential fatty acids provides the mussel with potent soothing action.

The observation that Maoris who regularly consumed Greenshell Mussels suffered less arthritis than their inland relatives, led to the development of a marketable, antiarthritic product, Greenshell Mussel Powder.

The Green Shell Mussel GSM (Perna canaliculus) is also called green-lipped mussel or New Zealand mussel. Green shell mussel products are widely used in dietary supplements as anti-inflammatory agents to fight asthma, arthritis, pain, and inflammation. The omega-3 fatty acids in the mussel are responsible for the anti-inflammatory effects.

Aroma Greenshell Mussel Oil GSM-Oil is a unique marine lipid group comprising a unique combination of different non-polar lipid groups and Omega-3 polyunsaturated fatty acids which are extracted from the New Zealand Green-Lipped Mussel. (Perna Canaliculus) by supercritical fluid extraction process using liquidified CO₂.

GSM-oil is only processed from live cold opened greenshell mussel meat which is blended with a botanical anti-oxidant to stabilize the omega-3 and lipid fraction.

USES

Research has shown the omega-3s in Greenshell Mussel Oil to be critical to joint health, respiratory health, cardiovascular health, cholesterol, HDL and triglyceride levels. Omega-6s and other types of fats in our diets leave our cell membranes rich in precursors associated with inflammatory processes, which can lead to arthritis, asthma, heart disease, depression, and psoriasis. Scientific research indicates that we need to reduce omega-6s and increase omega-3s to improve our health.

This unique marine Greenshell Mussel oil product has been exposed to critical review by many research institutions world

wide and is proven to have significant anti-inflammatory activity *in vitro* in inhibiting leukotriene synthesis and *in vivo* by markedly reducing the severity of adjuvant-induced polyarthritis in rat models. Various publications have been released confirming these results and the recent completion of a human double blind study conducted at the Glasgow Hospital in Scotland also confirmed these results.

More recently a double blind clinical trial conducted at the West Glasgow Hospital University NHS Trust involving 60 patients, 30 of whom had classical rheumatoid arthritis and 30 with clinical & radiological evidence of osteoarthritis, showed outstanding results.

Both rheumatoid and osteoarthritis patients showed a significant improvement with 76.7% of the rheumatoid and 70% of the osteoarthritic patients benefiting from the trial. If the drop-outs are excluded, then 79% of rheumatoid patients and 60% of osteoarthritic patients benefited.

- The results from this paper have been published in the journal "Complementary Therapies in Medicine". (Sept. 1998)

What Is The Science Behind Greenshell Mussel Oil?

Greenshell Mussel Oil has been the subject of numerous scientific studies, each demonstrating unique benefits from its pure ingredients. The unique grouping of Omega 3 fatty acids in Greenshell Mussel Oil are potent inhibitors of the lipooxygenase (5-lipoxygenase) pathway, which is where leukotrienes are produced, resulting in the down-regulation of the production of these harmful, inflammation-causing substances. Numerous



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clinical studies have linked the omega-3s in green lip mussels to measurable health benefits, including a study at the University of California which linked these omega-3s to reduced arthritic symptoms. (See Allerg Immunol (Paris), Sept. 2000;32(7):272-8).

PACKAGING

18kg plastic white containers which have been flushed with nitrogen.

STORAGE

Keep in cool dark room out of direct sunlight.

PHYSICAL ASPECT

GSM-oil is a reddish-orange color and doesn't contain any additives at all with a slight mussel odour.

CLINICAL REFERENCES

Systematic review of the nutritional supplement *Perna Canaliculus* (green-lipped mussel) in the treatment of osteoarthritis

1/25/2008

S. Brien, P. Prescott, B. Coghlan, N. Bashir and G. Lewith From the Department of Primary Care, University of Southampton, Aldermoor Health Centre, Aldermoor Close, Southampton, Hampshire, SO16 5ST and School of Mathematics, University of Southampton, University Road, Southampton, Hampshire SO17 1BJ, UK Abstract Complementary treatments for osteoarthritis (OA) are sought by patients for symptomatic relief and to avoid the iatrogenic effects of non-steroidal anti-inflammatories.

Novel anti-inflammatory omega-3 PUFAs from the New Zealand green-lipped mussel, *Perna canaliculus*

8/1/2007

Comp Biochem Physiol B Biochem Mol Biol. 2007 Aug;147(4):645-56. Epub 2007 Apr 14 Treschow AP, Hodges LD, Wright PF, Wynne PM, Kalafatis N, Macrides TA. Natural Products Research Group, School of Medical Sciences, RMIT University, Bundoora, Victoria, 3083, Australia.

Immunomodulation of murine collagen-induced arthritis by N, N-dimethylglycine and a preparation of *Perna canaliculus*

6/11/2007

BMC Complement Altern Med. 2007 Jun 11;7:20 Lawson BR, Belkowski SM, Whitesides JF, Davis P, Lawson JW. Department of Biological Sciences, Clemson University, Clemson, SC, USA. blawson@scripps.

Clinical efficacy and tolerance of an extract of green-lipped mussel (*Perna canaliculus*) in dogs presumptively diagnosed with degenerative joint disease

6/1/2006

N Z Vet J. 2006 Jun;54(3):114-8 Pollard B, Guilford WG, Ankenbauer-Perkins KL, Hedderley D. Institute of Veterinary, Animal and Biomedical Sciences, Massey University, Private Bag 11222, Palmerston North, New Zealand.

Technical Data

| | Result |
|-----------|------------|
| Total fat | 99.1g/100g |
| DHA | 12.3g/100g |
| EPA | 19.4g/100g |
| DPA | 1.0g/100g |
| ALA | 3.4g/100g |

GMO

This product is GMO free and does not undergo any radiation treatment and doesn't contain any ingredient treated by radiation.

In vitro modulation of inflammatory cytokine and IgG levels by extracts of *Perna canaliculus*

1/13/2006

BMC Complement Altern Med. 2006 Jan 13;6:1 Mani S, Lawson JW. Department of Microbiology and Molecular Medicine, Clemson University, Clemson, SC 29634, USA. sachin_mani@excite.com BACKGROUND: Inflammation is a predominant characteristic of autoimmune diseases which is characterized by the increased expression of pro-inflammatory cytokines.

Improvement of Arthritic Signs in Dogs Fed Green-Lipped Mussel (*Perna canaliculus*)

6/1/2002

The American Society for Nutritional Sciences J. Nutr. 132:1634S-1636S, June 2002 Tiffany Linn Bierer³ and Linh M. Bui EXPANDED ABSTRACT Arthritis is a significant problem in both humans and animals that may occur at any age but is particularly common in older individuals.

Anti-inflammatory effects of a stabilized lipid extract of *Perna canaliculus*

9/1/2000

Halpern GM. Allerg Immunol (Paris). 2000 Sep;32(7):272-8 University of California, USA. A lipid-rich extract, prepared by supercritical fluid (CO₂) extraction of freeze-dried stabilized NZ green-lipped mussel powder (Lyprinol) has shown significant anti-inflammatory (AI) activity when given to animals and humans.

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