

Summary of Relevant Information with Corresponding References.

Maori Miracle® is a combination product with medicinal ingredients that are not uncommon. Taking into consideration the abundant research material, we have every reason to believe this formulation will be both safe and efficacious in the recommended dosage.

A review of the medicinal ingredients:

1. **GlycoMarine™** is a freeze-dried extract of the New Zealand green lipped mussel (GLM). GLM has had several studies done on it in the last 25 years and has shown to have both anti-histamine and anti-inflammatory properties, however these beneficial properties appear to apply largely or rather exclusively to the *Perna canaliculus* species of GLM. Unlike common non-steroidal anti-inflammatory drugs, GLM is gastro protective. There is no known toxicity for this ingredient. People with shellfish allergies or gout are advised to avoid this product.
2. **Myristin®** or cetyl-myristoleate (CMO) is a cetylated fatty acid ester of myristoleic acid. Discovered in 1964 by researcher Harry Diehl as the component in Swiss Albino mice, which prevented them from getting induced arthritis. Mr. Diehl worked as a researcher for the US National Institute of Health. Myristin is derived in part from beef tallow. CMO has been appropriately described as a natural joint & muscle lubricant and an immune system enhancer. For joint health CMO also acts as an immune system modulator however that mode of action is unclear. CMO appears to be safe even at very high dosages with no adverse side effects.
3. **Kolla2®** is unhydrolyzed type II collagen derived from chicken sternum cartilage. Again this product is safe in high dosages with little or no adverse side effects. Several studies have been done on type II collagen in the treatment of arthritis. Although some of these studies indicate lower incidence of efficacy while other studies suggest significant efficacy, all studies indicate a high degree of safety for human consumption. Kolla2 is a natural source of hyaluronic acid, glucosamine and chondroitin; all of which have been favourably indicated in the treatment of joint pain, mobility and inflammation.
4. **Willow Bark Extract:** White Willow bark extract has been shown to contain salicin and therefore has analgesic properties. There is a drawback with salicin in that it can be gastro antagonistic. This concern has been aptly addressed with the GLM content in the formulation. Research indicates that GLM is gastro-protective and may have the ability to increase the efficacy of salicin. Even though the recommended daily dosage will have a low salicin content, it is advisable that anyone with known reactions to ASA (aspirin), should avoid products containing salicin. Likewise children and pregnant or lactating mothers should not take products containing salicin unless on the advice of a physician.

Conclusion:

Maori Miracle® is clearly safe and efficacious in our view. We have read the opinion of Mr. John Croft provided herein and concur with his conclusions on the safety, efficacy and possible synergistic value of the combination. The safety concerns are minimal and are appropriately addressed on the product label. Maori Miracle would appear to be an acceptable additive or alternative therapy for arthritic pain and inflammation and suitable as an over-the-counter self-care treatment.

Yours very truly,

Tom Stokes

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