

## Aquamin Research: Minerals from Red Algae

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The dietary supplement industry is widely unregulated and manufacturers often promote products without scientific substantiation for their claims at the risk of being caught, which rarely happens. An interesting mineral supplement (Aquamin F, Marigot Limited, Co. Cork, IRELAND) is derived from red algae harvested off the coasts of Ireland and Iceland. In an effort to summarize the scientific evidence supporting the claims for this product, this article reviews eight publications identified in PubMed (US National Library of Medicine at the National Institutes of Health) as of November 29, 2013 using the search term “Aquamin” (N=7 articles) or the company author’s last name “O’Gorman DM” (N=11 articles). All 7 Aquamin articles were included and one article was added from the author search.

Aquamin has been shown to contain calcium, magnesium and other important minerals (often in trace amounts) and Aquamin is often promoted for uses to support bone integrity, joint health and mobility. In the last five years (2008-2013), eight studies have been published in the medical literature indexed by PubMed including two clinical studies measuring the effects of Aquamin in knee osteoarthritis patients [1,2] and six subsequent pre-clinical studies evaluating Aquamin including: anti-inflammatory effects *in vitro* [3], osteoblast mineralization *in vitro* [4], inhibition of NF-κB signaling *in vitro* [5], porcine behaviour, salivary cortisol levels and skin lesions [6], osteogenic potential *in vitro* [7] and anti-oxidant and pro-apoptotic effects of a mixture of compounds including Aquamin [8].

The pre-clinical data are interesting because they suggest the minerals in Aquamin (i.e. those derived from red algae) may have anti-inflammatory, cell signaling, and osteogenic effects and may be useful in combination with other compounds to produce additional effects *in vitro*. In addition, the two small, pilot, clinical trials were intriguing

because they suggested 12 weeks of Aquamin treatment may reduce the pain and stiffness of osteoarthritis of the knee; may increase range of motion and walking distances and may allow partial withdrawal of NSAIDs over the 12 weeks of treatment. Unfortunately, confirmatory evidence has not been offered in any new clinical trials and additional research is needed to confirm these preliminary observations.

### References

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Received November 30, 2013; Accepted December 23, 2013; Published December 26, 2013

Citation: Frestedt J (2013) Aquamin Research: Minerals from Red Algae. *Oceanography* 1: 114. doi:10.4172/2332-2632.1000114

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