Viscosupplementation with Algal Polysaccharides in the Treatment of Arthritis (BGN)

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Arthritis is chronic inflammation of the joint, accompanied by pain, swelling and limitation of movement in joints and connective tissue. It afflicts more than 40 million people in the United States. The most prevalent forms of arthritis are osteoarthritis and rheumatoid arthritis, both of them being progressive, degenerative diseases leading to varying degrees of disability. The cartilage and bone of the joint undergo destruction with the progress of the disease, followed by loss of mobility and increased suffering caused among others, by the rubbing of bone against bone. Several viscosupplementation products, based on hyaluronan preparations, have become available in the past few years, aiming to restore the composition of the affected synovial fluid in patients with osteoarthritis, thereby providing these patients with relief from their symptoms. Hyaluronan for these viscosupplements has been usually produced from chicken combs (Synvisc®) or synthetically (Arthrease®). However hyaluronan has a limited stability in synovial fluid mainly due to hydrolysis by hyaluronidase enzymes present in mammalian tissues and therefore its presence in the joint is short lived. The availability of an efficient viscosupplementation therapy would provide relief to patients afflicted by disorders related to degenerative joint disease with joint lubrication, and in more serious cases, it would postpone the need for surgical intervention and reduce the number of operations performed.

The Technology

We have developed a viscosupplement composition containing polysaccharides of red microalgae which is stable in the mammalian synovial fluid and exhibit superior properties as viscosupplements in the joints.
Our results in animal models showed less degenerative changes in the cartilage when compared with available commercial means.

Applications

A joint-lubricating composition for treating degenerative joint disorders

Advantages:

resistant to hyaluronidase and therefore more stable and long lasting
non-immunogenic
has multiple effects: analgesic, anti-inflammatory, antimicrobial and antiviral

Patent Status

Granted - Italy, France, Germany, Great Britain, Israel
Pending - US

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