

Method to Diagnose and Treat Degenerative Joint Disease

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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing methods for detecting and treating joint disease.

OVERVIEW

Joint disease results in huge economic costs and can significantly reduce the quality-of-life of people who suffer from it. Pain, inflammation, and instability of the joint are common. Treatment is generally limited to easing the pain and reducing the swelling, but for joints with end-stage disease, surgical treatments, such as arthrodesis (fusion of the joint) or prosthetic joint replacement are also often used. No cure for degenerative joint disease or arthritis currently exists.

THE INVENTION

UW-Madison researchers have developed methods for detecting and treating joint disease, particularly in joints containing a functionally important intra-articular ligament or tendon. To diagnose joint or ligament degeneration, a sample is taken from a joint or ligament and tested for the expression of cathepsin K, cathepsin S, or tartrate-resistant acid phosphatase (TRAP). Because these enzymes are up-regulated during the development of inflammatory arthritis or ligament degeneration, increased levels indicate the presence of disease. Treatment of joint or ligament disease would involve inhibiting the activity of cathepsin K, cathepsin S, or TRAP.



THE WARF ADVANTAGE

Since its founding in 1925 as the patenting and licensing organization for the University of Wisconsin-Madison, WARF has been working with business and industry to transform university research into products that benefit society. WARF intellectual property managers and licensing staff members are leaders in the field of university-based technology transfer. They are familiar with the intricacies of patenting, have worked with researchers in relevant disciplines, understand industries and markets, and have negotiated innovative licensing strategies to meet the individual needs of business clients.



APPLICATIONS

- Early diagnosis of joint or ligament disease, including arthritis and degeneration of ligaments and tendons
- Treating joint degeneration, both naturally-occurring degeneration and that resulting from trauma
- May lead to methods of preventing anterior cruciate ligament (ACL) rupture in humans
- May also lead to methods of preventing or treating cranial cruciate ligament (CCL) rupture in dogs

KEY BENEFITS

- Could potentially minimize the need for radical interventions, such as surgery, in the treatment of joint disease
- Could allow a person suffering from joint or ligament disease to follow the progression of the disease over time and make more informed treatment decisions

ADDITIONAL INFORMATION

Tech Fields

Diagnostic Assays - Other assays

Pharmaceuticals & Vitamin D - Musculoskeletal

Veterinary - Companion animals

CONTACT INFORMATION

For current licensing status, please contact Emily Bauer at emily@warf.org or 608-960-9842.

