Protective Injectable Biological Matrix for the Treatment and Prevention of Osteoarthritis

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Technology description

UNIVERSITY OF MISSOURI Office of Technology Management and Industry Relations Non-Confidential Abstract of Invention UM Disclosure No. 15UMC005 Protective Injectable Biological Matrix for the Treatment and Prevention of Osteoarthritis INNOVATION: This invention is an innovative treatment designed to mitigate articular cartilage degeneration and thus the progression of osteoarthritis. The key to this technology is the combination and formulation of anti-inflammatory agents and free-radical scavengers in an injectable biological matrix that provides durability and lubricity, while reducing chondrocyte apoptosis and cartilage degeneration; thereby relieving pain and mitigating the progression of osteoarthritis. Injection can occur intra-articularly, similarly to current methods of injection, or directly into the damaged cartilage.
BACKGROUND
Joint injury or trauma can result in acute posttraumatic osteoarthritis (PTOA), characterized by joint swelling, synovial effusion, inflammatory cell infiltration, and chronic pain. Articular cartilage degeneration is a result of PTOA that can lead to osteoarthritis (OA) in the majority of patients with joint injury. PTOA treatment is a challenging clinical problem in orthopedic and trauma surgery. Currently, therapies available address the symptoms of PTOA, but not the underlying cause. MU’ s protective injectable biological matrix treats the underlying causes of OA.

Application area

- Osteoarthritis or Degenerative Arthritis
- Posttraumatic Osteoarthritis
- Joint inflammation

Advantages

- Lubricity, anti-inflammatory and regenerative effects
- Minimally invasive method of treatment

- Biological matrix THAT prevents washing away by synovial fluid
- Directly treats the cause, not just the symptoms

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