

EXPERIMENTAL RHEUMATOLOGY

Title

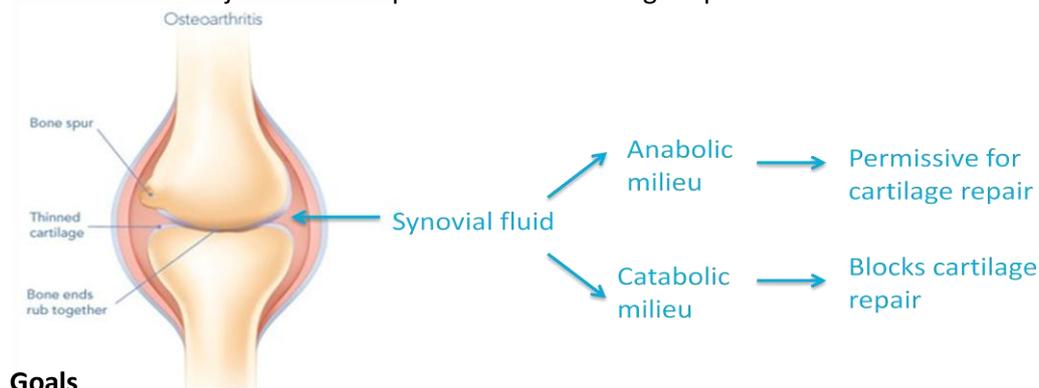
Development of a bioassay that can discriminate between the anabolic and catabolic state of a joint in osteoarthritis

Clinical Relevance

Osteoarthritis (OA) is the most common joint disease that affects millions of people worldwide. Healthy cartilage provides smooth movement of the joints and acts as a cushion between the bones. The main characteristic of OA is articular cartilage degradation, which causes pain, swelling and problems with mobility. There is currently no effective therapy against OA. It was previously thought that intrinsic repair of cartilage was impossible, but recent studies have shown that intrinsic cartilage repair is indeed possible under certain conditions. If we can define these conditions, we are closer to an effective therapy against OA.

Background

Joint distraction is a recently new treatment option offered to OA patients. In a certain percentage of patients that are treated by joint distraction, cartilage repair is observed. However there are also patients who do not respond to this treatment. It is not clear why in most cases cartilage repair does not occur and why under specific conditions it can take place. A major determinant of successful repair is the intra-articular milieu. We hypothesize that a catabolic joint milieu blocks cartilage repair, while an anabolic joint milieu is permissive for cartilage repair.



Goals

In this project we want to investigate if we can discriminate the anabolic and catabolic state of the synovial fluid of patients with OA. This includes selection of interesting promoters, cloning of promoters in a construct and transfect these constructs in a chondrocyte cell line. The effectiveness of the made constructs will be tested by stimulation with known positive factors and OA-conditioned medium.

We offer

We are working in a state of the art laboratory that is internationally renowned for its research on rheumatic diseases. You will work on an already ongoing project together with the PhD student. You will work in a motivating environment in which you will be able to improve your laboratory skills, further develop your scientific thinking and expand your knowledge on molecular processes and immunology. Want to know more? Don't hesitate and contact us.

Contact

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