

EXPERIMENTAL RHEUMATOLOGY

Pain in rheumatoid arthritis: interplay between the nervous system and inflammation via TLR4

Clinical Relevance

Rheumatoid Arthritis (RA) and Osteoarthritis (OA) are diseases in which pain is a major issue. Even though the main cause of the disease is inflammation or destruction, the major symptom driving patients towards the clinic is pain. It is still unclear what causes this pain in RA and OA, which is why we want to unravel the mechanism behind this pain.

Background

Initially it was thought that pain comes from the central and peripheral nervous system alone. However, it has slowly become clear that inflammatory factors and inflammatory cells exist in and around the CNS and PNS and they have a major impact on pain development. In RA and OA these factors have long been identified as key players and therefore it is beyond doubt that inflammatory factors in RA and OA can effect pain as well. Our laboratory has investigated TLR4 as a key factor in RA and OA pathology. From a neuropathic pain perspective our collaborators have shown that TLR4 is involved in pain. Therefore we want to investigate if TLR4 might play a role in RA and OA pain as well and elucidate the mechanisms underlying its driving role in pain.

Goals

The goal of this project is to identify the role of TLR4 in pain in RA and OA.

We Offer

We are working in a state of the art laboratory that is internationally renowned for its research that combines therapeutic strategies with diagnostics in rheumatic diseases. In general projects within our lab include a broad spectrum of techniques; amongst others, work with patient material, histology, immunohistochemistry, cell culture, Western blot, FACS and qPCR. You will be able to improve your laboratory skills, develop your scientific thinking and expand your knowledge on molecular processes and immunology.

We are looking for

For this particular project we are looking for a highly motivated bachelor or master student with a keen interest for research on pain. Content and specific topic as well as fundamental versus translational nature of the internship will vary based on the progress of the running overall project. Contact us for more information.

Contact

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