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Open position for a **postdoctoral scientist** (F/M)

T cell immunology, autoimmunity

Topic: Antigens of Pathogenic T cells from Patients with Ankylosing Spondylitis (Morbus Bechterew)

Background:

In collaboration with rheumatologists, we are investigating the pathogenesis of ankylosing spondylitis (AS). AS is a chronic inflammatory disease which primarily affects the axial skeleton. It is presumably an autoimmune disease and has a very strong genetic bias to HLA-B*27:05. Because HLA molecules present antigenic peptides to cytotoxic T cells, this bias suggests that arthritogenic peptides may play a key role in the pathogenesis of AS by initiating the autoimmune attack of the T cells against spinal tissue. However, arthritogenic peptides have not yet been identified. The current project aims at identifying such peptides in order to reveal new insights into the pathogenesis of AS. All required techniques are established in our lab.

In pilot experiments we have identified several expanded T cell clones in AS patients. Their T cell receptors share structural motifs which supports our hypothesis. So far, one receptor is already cloned and ready to be examined by a novel, highly sensitive technique for analyzing T cell antigens (K. Siewert et al Nat.Med. 2012; A. Arakawa et al. J.Exp.Med. 2015).

We are now planning to investigate the T cell receptor repertoires in greater detail by further *Illumina*-next-generation sequencing with a particular focus on single cell analysis. We will then express further particularly interesting receptors, use them for antigen searches, and for investigating T cell receptors and peptide antigens in tissue samples from AS patients.

We seek:

Applicants should hold a doctoral degree (preferentially a PhD). Most importantly, he/she should be highly motivated, interested in joining an interdisciplinary team, and ideally have some experience molecular biology.

We offer:

The position is funded by a DFG grant for **2 years**. We offer a TV-L **E13** position and are planning to start early 2019. Our well-equipped labs are at the new Biomedical Center. We encourage applications of women. In case of equal qualification, disabled individuals will be preferentially considered. Presentation costs cannot be reimbursed.

Please apply to: Klaus.Dornmair@med.uni-muenchen.de

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