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Discovery of an anti-inflammatory substance

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The messenger interleukin-27 plays an important role when the human body blocks inflammations. This was discovered by an international research team, of which the Kiel Professors Joachim Grotzinger and Stefan Rose-John, as well as the doctoral candidate, Bjorn Spudy, are a part of. The research findings of the scientists from Kiel, the US and Great Britain were published yesterday, Sunday (7 November 2010), in the online advance edition of *Nature Immunology*.

The human immune system reacts to bodily injuries and infections with inflammation. This is important for the healing process, but can result in harmful effects if it becomes chronic. Inflammation is triggered by messengers such as the cytokine interleukin-6 (IL-6). This peptide hormone latches on to special receptor molecules on cells and compels inflammation.

"We observed that another cytokine, interleukin-27, can counteract this effect", explained Professor Joachim Grötzinger, from the Institute of Biochemistry at Kiel University. "IL-27 latches on to the same receptors as IL-6 and thus inhibits the inflammatory reaction." The Kiel biochemists were able to support the international research team with their knowledge of IL-6 in particular. According to Grötzinger, "We have dedicated ourselves to this topic for over 20 years". Professor Stefan Rose-John added: "We hope that these fundamental findings will one day be able to aid the healing of chronic inflammatory diseases".

The Christian-Albrechts-Universität zu Kiel (CAU) has proven international expertise as a North German research university in the field

of Life Sciences. This fact is emphasised by the cluster of excellence Inflammation at Interfaces, with which the CAU was successful in the first round of the national Excellence Initiative, together with the University of Lübeck and the Research Center Borstel. The Collaborative Research Centre (CRC) 877, "Proteolysis as a Regulatory Event in Pathophysiology", whose spokesperson is Rose-John and in which Grötzinger is also involved, substantiates the competence of Kiel in the field of Life Sciences as well. CRC 877 deals with signalling pathways within and between cells, which are triggered by the fission of proteins.

More information: A role for IL-27p28 as an antagonist of gp130-mediated signaling. *Nature Immunology* 2010, DOI:10.1038/ni.1957

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