

Bavarian research & innovation

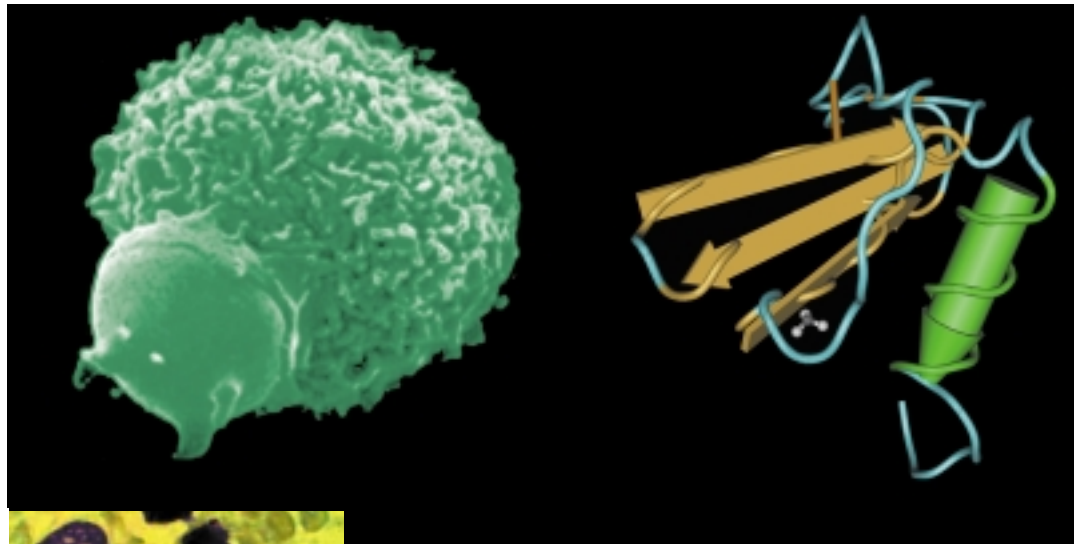


Research Network for New Strategies in Immunotherapy

ON THE OFFENSIVE IN THE IMMUNE SYSTEM

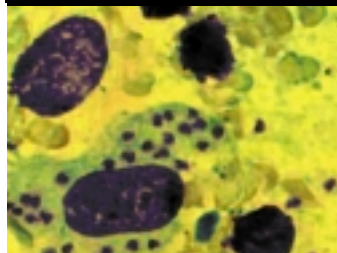
Infectious or cancerous diseases continue to cause more than half of the world's deaths. Conventional therapies have reached their limits, and new strategies for therapy and prophylaxis are being sought.

Based on the latest results in genome research and molecular immunobiology, the goal of the Research Cooperation is to specifically influence the body's own defence mechanisms. The immune system does not only react to foreign proteins, but also to antigens posing a threat. Such danger signals are released from both, infective agents and degenerated or damaged cells. Cancerous cells and infective agents have developed the capacity to avoid detection and elimination by the immune system (tolerance, evasion, subversion). Therefore, the new approach in immunotherapy aims to overcome these mechanisms.

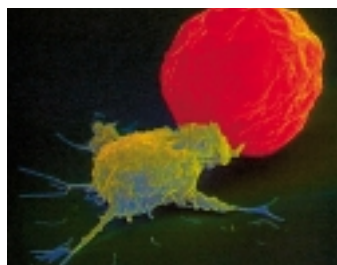


Left site: An immune system macrophage in action.

Right site: Interleukin 8 is the first chemokine to have been discovered. The messenger substance incites immune cells to migrate



Cell infested with single-cell parasites (Leishmania). Source: Prof. Jörg Hacker, Würzburg



Killer cell attacking a tumour cell

Spokesperson:

Prof. Dr. Jörg Hacker, University of Würzburg

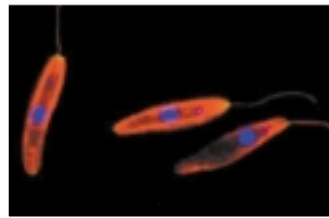
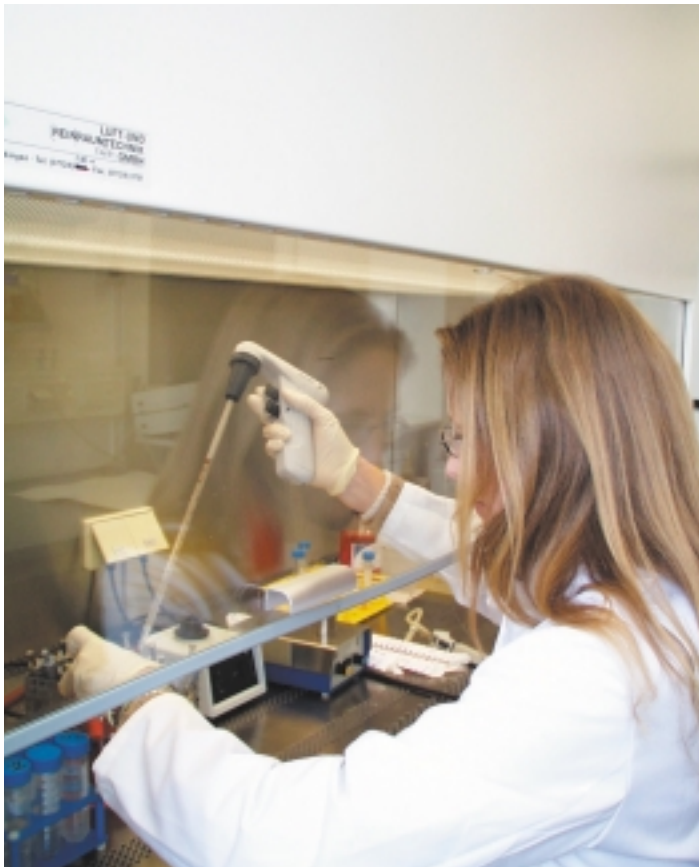
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Prof. Dr. Michael Hallek, University of Munich
Prof. Dr. Heidrun Moll, University of Würzburg
Prof. Dr. Hermann Wagner, Technical University of Munich

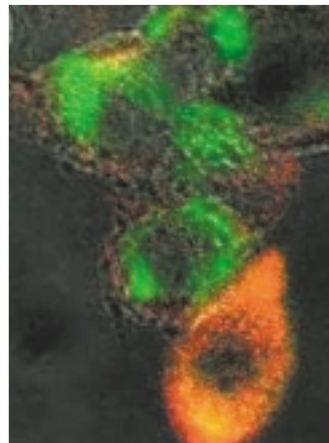
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Leishmania are single-cell parasites that cause, for instance, orient boil in humans. Source: Prof. Dr. Heidrun Moll, Würzburg



Intracellular organelles in dendritic cells infected with Leishmania (fluorescence microscopy). Source: Prof. Dr. Heidrun Moll, Würzburg

RESEARCH TOPICS:

Vaccines against oncogens

The central focus of the tumour therapy projects is the identification of tumour-specific antigens, along with the presentation of antigens by dendritic cells. Dendritic cells are able to overcome the immune system's tolerance to cancer cells. In addition to this, methods are to be developed which will specifically eliminate tumour cells by inducing programmed cell death.

Prof. Dr. Rudolf Grosschedl, LMU Munich
 Prof. Dr. Michael Hallek, LMU Munich
 Prof. Dr. Ulf R. Rapp, University of Würzburg
 Prof. Dr. Werner Goebel, University of Würzburg
 Prof. Dr. Gerold Schuler, University of Erlangen-Nuremberg

Vaccines against infective agents

The scientists working in the infective agent vaccine projects are looking for new immunotherapeutic methods against infectious diseases. In addition to research on new therapeutic approaches to infections of the herpes viruses, immunomodulatory methods for the therapy of AIDS and for the treatment of asthma should be developed.

PD Dr. Klaus Erb, University of Würzburg
 Prof. Dr. Heidrun Moll, University of Würzburg
 Prof. Dr. Ulrich Koszinowski, Dr. Markus Wagner, LMU Munich
 Prof. Dr. Ralf Wagner, University of Regensburg

Immunomodulation

Specific modulation of the immune system using agents such as probiotically active intestinal bacteria, bacterial nucleic acids and immunoactive antibodies are the primary focus of the immunomodulation projects.

Dr. Tobias Ölschläger, University of Würzburg
 Prof. Dr. Thomas Hünig, University of Würzburg
 Prof. Dr. Hermann Wagner, Technical University of Munich

Business partners:

SIREEN AG, Martinsried; MediGene AG, Martinsried; Theralmun, Würzburg; Merix Germany GmbH, Erlangen; responsif GmbH, Erlangen; Corixa Corp./USA; Intervet International B.V./Netherlands; GENEART GmbH, Regensburg; Ardeypharm (Pharmazentrale GmbH), Herdecke; TeGenero GmbH, Würzburg; Coley Pharmaceuticals GmbH, Langenfeld.