

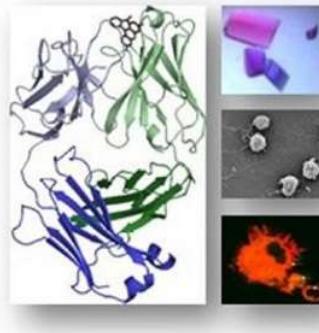
Intelligent and efficient technologies for antibody generation

Description

The eighteen person strong team of Prof. Dr. Katja Hanack, the Professor of Immunotechnology at the University of Potsdam, is developing innovative technologies in antibody generation. The research team is focused on the development of intelligent and efficient technologies for the generation of antibodies, in particular monoclonal and recombinant antibodies, with the aim of combining them into a unique, efficient and fast antibody producing platform to improve significantly on the standard hybridoma technology. To date, the Group has successfully collaborated with fifteen industrial partners and twelve academic partners throughout Germany.

Current Research Themes

- Development of an antibody platform:
 - The development of techniques to facilitate the induction of immune responses against low-immunogenic substances such as peptides or haptens.
 - The development of a chimeric virus protein that can induce specific immune responses within four weeks.
- Generation of monoclonal antibodies:
 - The establishment of new *in vitro* approaches to the generation of monoclonal antibodies using both human and camelid cells, with the aim of reducing process time and increasing the accuracy of process monitoring.
- Generation of immortal immune cell lines:
 - The generation of immortal immune cell lines for use in the *ex vivo* induction of an immune response as an alternative to the conventional hybridoma technique;
 - removes the need for experimental animals
 - ensures a permanent and unlimited number of immune cells
 - can be produced from different host species.
- *In vitro* modulation of antibody affinities:
 - Development of an efficient and flexible *in vitro* approach to the modulation of antibody affinities, for direct use in cell cultures.
- Generation of camelid monoclonal antibodies and nanobodies:
 - The production, purification and characterisation of camelid immunoglobulins, special antibodies which have no light chains and are capable of single-chain antigen binding, in order to develop strategies for the routine handling of these antibodies and their use in a diagnostic test system.



Applications

- Medical diagnostics
- Medical analysis
- Medical therapy
- Life science research

Keywords

- Nanobodies
- Antibody
- Immunotechnology
- Life sciences
- Biochemistry
- Biology

Start-up status

- new/era/mabs was founded in 2014.
- Offers the custom-made generation of monoclonal antibodies .
- www.neweramabs.com

Interest in cooperation

- Research cooperation
- Contract Research

References

- www.uni-potsdam.de/en/ibb-immunotechnologie/publications

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Aug 2020