

# TWINCORE - Seminar

Tuesday August 24th, 2010, 12.30 p.m.

TWINCORE Lecture Hall



## „Recombinant human antibodies for proteomics, functional genomics and therapy“

### Prof. Dr. Stefan Dübel

A highly integrated pipeline for the generation of human antibodies by antibody phage display was validated to allow the creation of a renewable resource monoclonal antibodies to the entire human proteome in the near future. Antibodies useful in relevant immunoassays, including FACS, pull downs and in vivo assays have been generated to more than 80 targets already. Binders with single digit nanomolar monovalent affinities are frequently found, and cassette cloning vectors to quickly convert the scFv fragments into multimeric, biotinylated, enzyme labelled or Fc-bearing derivatives have been developed.

The genes encoding the antibodies can be used for the functional analysis of the target gene. After subcloning into a mammalian expression vector, they provide a functional knock down of the target antigen, as demonstrated for receptors on immune and nerve cells, both in cell culture and living primary tissue. Fusion proteins to human RNase allowed to generate a completely human protein which efficiently targets and kills tumor cells.



### Who is Stefan Dübel?

- Professor of Biotechnology and Director of the respective department at the Technische Universität Braunschweig, Germany .
- Co-pioneer of in vitro antibody selection technologies, resulting in several key inventions including antibody phage display and human antibody libraries with randomised CDRs.
- Serves in boards of scientific journals and as consultant to biotech and pharma companies.
- Initiator of the "Antibody factory" of the German National Genome Research Network.

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