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INTRABODIES KNOCKING DOWN INTRACELLULAR CANCER ANTIGENS

Thomas Boldicke

Helmholtz Centre for Infection Research, Germany

Intrabodies can be used to target and knock down virtually every protein inside the cell. The knockdown of intracellular cancer antigens by intrabodies is promising. Cancer antigens passing the endoplasmatic reticulum (ER) are inactivated by ER intrabodies retained inside the ER and expressed in the single-chain variable fragment (scFv) format. Cytosolic and nuclear cancer targets are inhibited by neutralizing single domain antibodies which comprises only the variable domain of the heavy chain derived from camels or sharks. This talk will give an overview of *in vivo* targeting of cancer antigens by intrabodies in mouse tumor models and will demonstrate an example of ER intrabodies inhibiting the polysialyltransferases in rhabdyomasarcoma cells in a xenograft tumor mouse model.

Biography

Thomas Boldicke has received his PhD in 1982 at the Max Planck Institute of Molecular Genetics, Berlin. He started his carrier as Postdoc at the German Research Centre for Biotechnology (GBF, Brunswick) in the Department of Genetics and Cell Biology by John Collins. Now he is a Senior Scientist at the Helmholtz Centre for Infection Research and Project Leader for intrabodies. In 2011, he qualified as a Professor in Molecular Biology and Cell Biology at the Technical University of Braunschweig. He is an expert in generating mouse and human hybridomas and in selecting and modifying recombinant antibodies. In the last decade he focused on the construction and characterization of intracellular antibodies. He has published 35 manuscripts.

thomas.boeldicke@helmholtz-hzi.de