

### Background

- Biologicals revolutionize disease treatment, extend lifespan, and enhance quality of life
- Biologicals have a broad application potential for therapy and diagnostics and as coating material for medical products
- The BioDevCenter is based on an interdisciplinary team at the NMI Natural and Medical Sciences Institute, the Werner Siemens Imaging Center (WSIC) and the University Hospital Tübingen
- The BioDevCenter is located in the Reutlingen-Tübingen Technology Park (TTR) in the south of Stuttgart/BW



### Objectives

- Effective and efficient pre-clinical development of promising biological candidates from academic groups, start-ups, SMEs and pharmaceutical companies
- Expand research and innovation capacities
- Introduce advanced technologies
- Develop skills for smart specialization, industrial change and entrepreneurship
- Focus on development of biologicals for theranostics in personalized medicine with specialization on optimized antibody formats and experimental vaccines

### Biologics development platform

- Proof of principle / generation of a concept
- Immunization, library generation, expression, purification
- Candidate selection (binding affinity, epitope, developability assessment)
- Early supply for process-, analytics-, formulation development and *in vivo* studies
- Analytical method development
- Candidate optimization (functionalization)
- Pilot tox in-life studies
- Cell line development and assay development for transfer into GMP production

### Interested ?

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# Generic Platform for Custom Biologicals Development



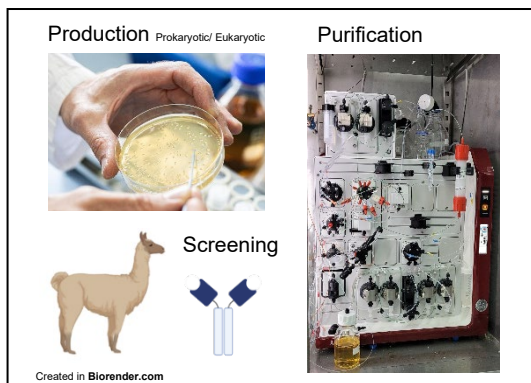
WSIC  
Werner Siemens  
Imaging Center

NMI  
Natural and Medical  
Sciences Institute



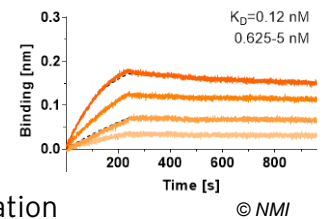
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## Generation & Production



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- Antibody formats (IgG, Fab, sdAb)
- Antigens, Enzymes
- Expression & Purification
- Functionalization
- sdAb generation
- Immunization & Library Generation
- Candidate screening and characterization

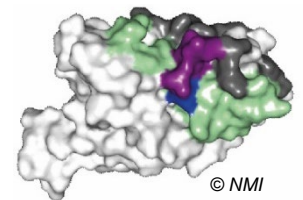


## High-end analytical and bioanalytical assays

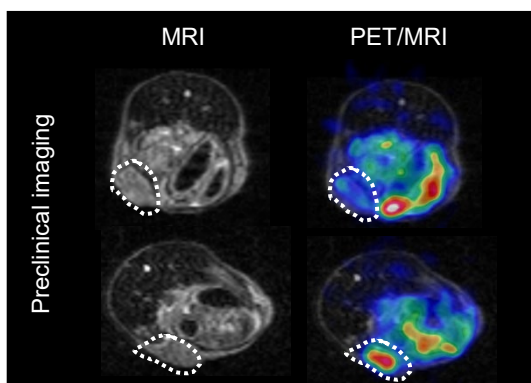


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- Epitope mapping
- Developability assessment
- Stability assessment (T, pH, chemicals)
- Identity & integrity before and after functionalization
- Binding ability before and after functionalization



## Translation



© WSIC

- Cellular models
- Early supply for development
- Cell line development
- In vivo* animal studies
- Assay development and transfer for GMP production

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