

**Your Partner for Product Development from Bench to Market!**  
Our Expertise – Your Benefit

## Immunology Services

**Providing expert immunology services in the field of infectious diseases, vaccine development, allergy, autoimmunity and cancer**

Rhein Biotech provides services ranging from conceptual design and assessment of assay feasibility to development and GLP-validation for both preclinical and clinical research. Our expert immunology services include the development, validation, and routine performance of assays for our clients.

**Rhein Biotech - Partnership in Product Development!**



### **Office, Laboratories and Production Building**

Process Development  
Pilot Facility and EU-GMP certified Production  
Classified Areas of Grade D, C, and A (Isolator)  
Molecular Biology, Immunology and Cell Culture  
Analytics and Microbiology  
OECD-GLP certified Laboratories

### **Please contact Business Development**

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### **Rhein Biotech GmbH**

Eichsfelder Str. 11  
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Germany

## Immunology Services

### **Immunoassay and Immunogenicity testing**

- Antigen and adjuvant assessment
  - *In vivo* (mouse, rat, rabbit, transgenic mouse models)
  - *In vitro* (cell based antigen presentation assays, antigen specific T cell clones)
- Epitope screening and identification
- T cell phenotyping
- Th1/Th2 profiling
- Antibody titer, isotyping
- Cytokine and chemokine measurements
- Assessment of cell surface and activation markers
- Virus neutralization assays

### **Assessment of Biomarkers in Clinical Studies**

- Sample preparation (e.g. PBMC isolation), quality control, storage and logistics
- Assay feasibility assessment and customized assay development
- GLP assay validation and sample analysis or assay transfer to customer
- Analysis of antigen-specific cellular and humoral immune responses
- Cytokine and chemokine measurements
- Cell surface and activation markers

### **Assays / Technology**

#### ***Flow Cytometry Assays***

- CD4+ and CD8+ T cell-mediated responses
  - Lymphoproliferation
  - Cytotoxicity
- Multivariate 5 color cell surface and activation markers
- Tetramer and intracellular cytokine staining
- Cytokine bead array

#### ***ELISA All Formats***

#### ***ELISpot - single cell cytokine assay***

#### ***Generation of antisera / monoclonal antibodies***

#### ***Immunohistology***

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