



- 1 *Biacore T200 autosampler unit*  
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- 2 *Sensogramms of kinetic analysis*  
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## BIOMOLECULAR INTERACTION ANALYSIS BY BIACORE (SPR)

### Fraunhofer Institute for Molecular Biology and Applied Ecology IME

Forckenbeckstraße 6  
52074 Aachen

Contact:

Holger Spiegel  
Phone +49 241 6085-12461  
holger.spiegel@ime.fraunhofer.de

[www.ime.fraunhofer.de](http://www.ime.fraunhofer.de)

The activity of pharmaceutical molecules such as antibodies, cytokines and small-molecule drugs is mediated by interaction with specific receptors or target molecules in the patient. The identification, development and quality control of pharmaceuticals therefore relies on the accurate qualitative characterization of interaction parameters such as specificity, binding, affinity and stoichiometry.

SPR spectroscopy facilitates highly sensitive, quantitative biomolecular interaction analysis in real time, and provides important decision criteria for the selection and optimization of active pharmaceutical ingredients.

The SPR-based analysis of monoclonal antibodies, recombinant antibodies and their fragments is a well-established core competence at the Fraunhofer IME which is constantly subject to refinement and development. A wide variety of assay formats is available, from initial screening to detailed

characterization and quality control in the context of GMP-compliant production of recombinant antibodies for clinical studies.

### Assay Formats

- Standard-based and standard-free concentration determination
- Determination of absolute and relative binding activities
- Determination of thermodynamic interaction constants ( $k_{on}$ ,  $k_{off}$ ,  $K_D$ ,  $\Delta H$ ,  $\Delta S$ )
- Competition assays
- FC-receptor binding

The long term experience of the IME SPR group facilitates the efficient development and validation of tailor-made analytical assays for various purposes.