Multidisciplinary Molecular Interaction Core (MMIC) Facility
Shelby Biomedical Research Building (SHEL) 420

MMIC Information

Key Features
- Label-free
- Real-time
- Direct measures opaque samples without compromise of sensitivity or accuracy

Biaco T200 Components

Integrated fluidic cartridge (IFC)
- The Biaco T200 IFC is optimized for the highest affinity kinetics
- The system has 4 flow channels connected in pairs (FC1-FC2, FC3-FC4)
- However, flow cells can be run single, pair-wise or serially
- Pair-wise run gives good reference subtraction
- The system requires low volume reagents

Biaco T200 Technology

Key Features
- Capable of analyzing a wide range of molecular interactions
  - Proteins
  - Nucleic acids
  - Lipid & membrane associated molecules
  - Carbohydrates
  - Low MW compounds (100-1000 Da)
  - Whole cell extracts
  - Viruses/bacteria

How the SPR System Works

- Changes in refractive index
- Measurements depend on concentration and temperature
- 1 Resonance unit (RU) is equivalent to a change in surface concentration of approximately 1 pg/mm² (proteins on a sensor chip)

Biaco Assay Steps

Surface preparation - immobilization of the ligand to the sensor chip

Sample (analyte) injection

Regeneration

Data evaluation

Biacore T200 Assay Steps (cont)

Typical Interaction Sensorsgram (RU vs. time)

Conclusions

Use of the Biaco T200 can provide comprehensive information from one system

Analyzes molecular interactions in real time and obtain a wide range of critical binding-related data.

Biaco data is included in over 20,000 publications

Publications include basic and applied research in the following fields:
- Cancer
- Neurobiology
- Immunology
- Infectious diseases
- Functional proteomics
- Cell signaling
- Vaccines
- Drug discovery

Selected MMIC-related Publications (out of 23)


Selected MMIC-related Publication

Figure from a MMIC-related publication

Logistic regression model to predict the interaction between the analyte and the sensor chip.