



**fortéBIO**  
A Division of **Pall Life Sciences**

# Revolution in Interactions Analysis

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# Molecular interactions in Biopharma



## Discovery & Basic research

- Specificity = Which molecule?
  - Targets
  - Signalling mechanisms
- Affinity = How strong is the binding?
- Kinetics = How fast it will act?
- Mapping = Where it will bind?

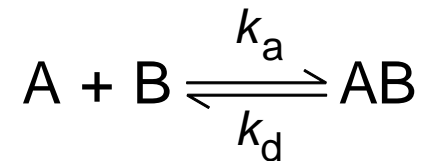
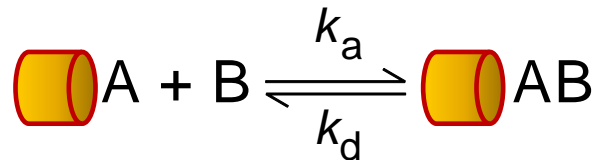
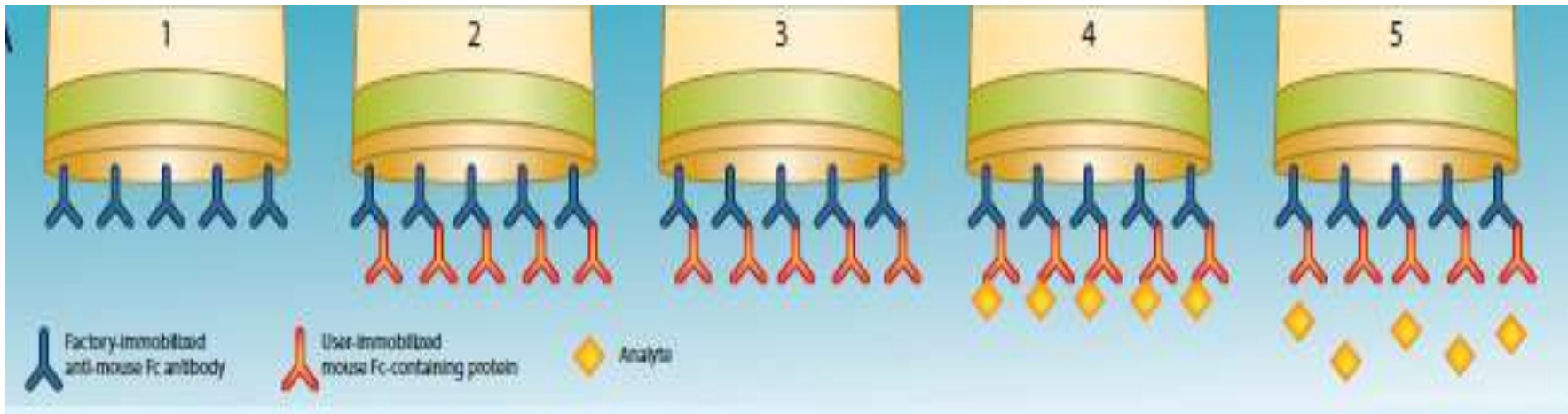
## Bioprocess development

- Concentration = Do I have enough?
  - Clones, cell cultures conditions
- Purity = Safe to use?
- Formulation (Stability & Activity)

## Clinical development

- Action or Immune reaction
- ADA

# BLI Analytical Instruments : Sensors measuring interaction

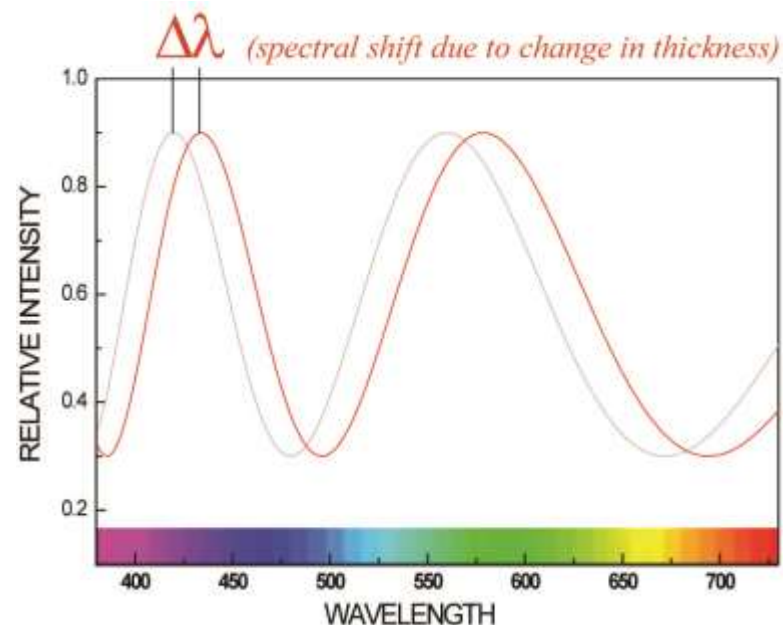
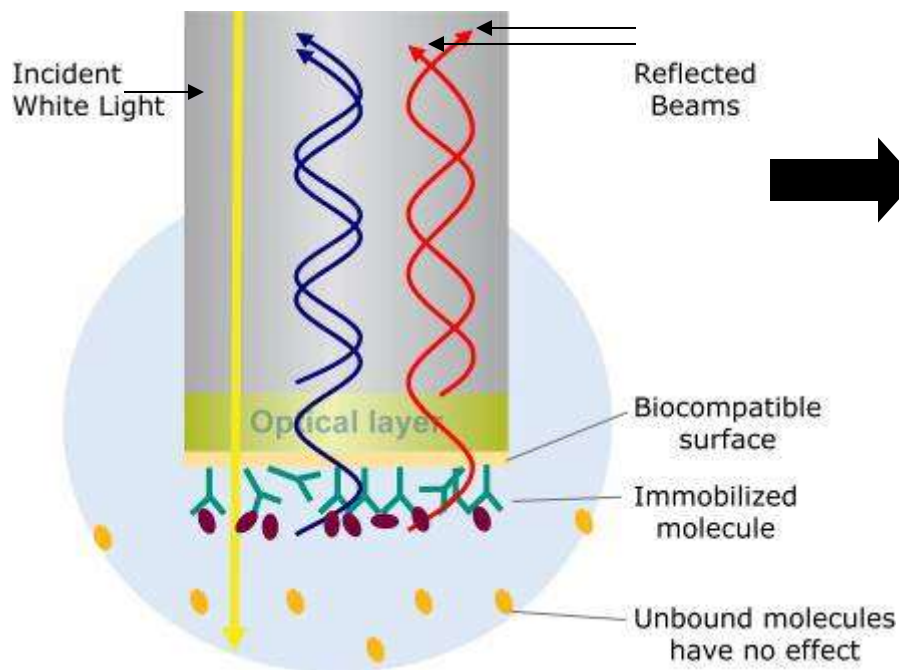


- Protein Concentration
- Association rate
- Dissociation rate
- Binding Affinity

Myszka et. al. *Direct Comparison of Binding Equilibrium, Thermodynamic and Rate Constants Determined by Surface- and Solution-based Biophysical Methods*  
Protein Science 2002, 11 (5), 1017-1025.

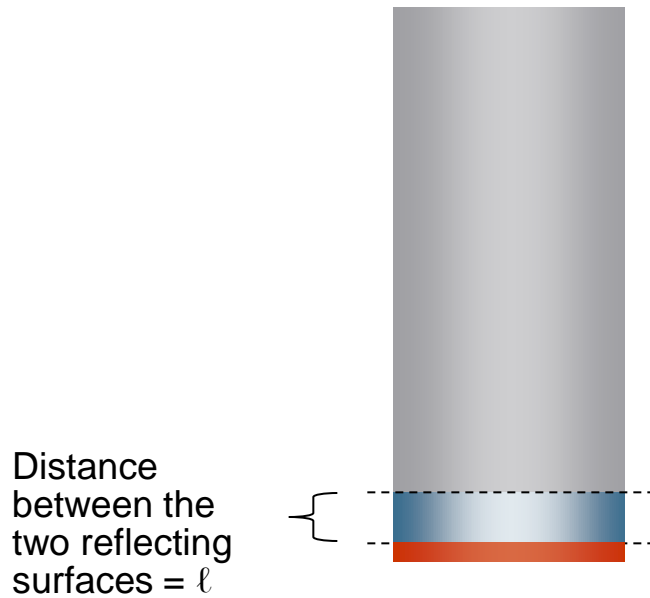
# BLI Analytical Instruments : Optical detection of Bio-Layers

- Optical method (interferometry)
- Analyze binding changes thickness of bio-layer, which is measured at detector
- Can measure “biolayers” forming on sensors

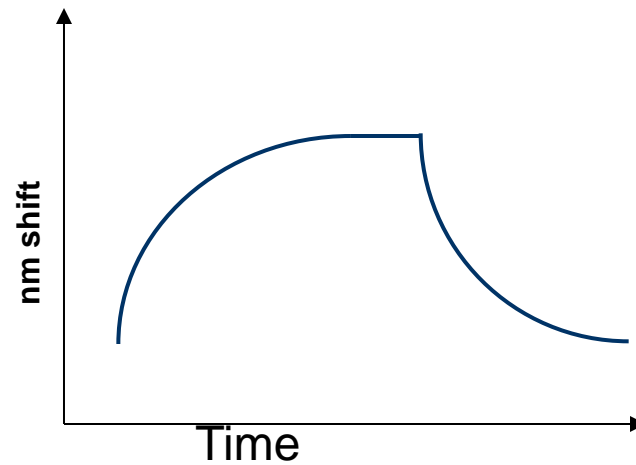
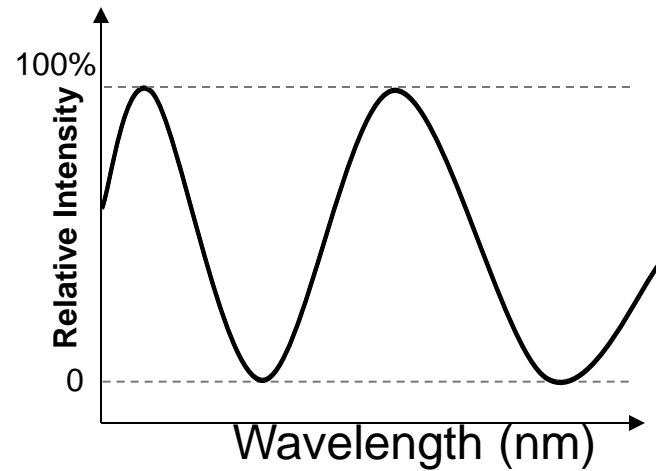




# Monitoring the Interference: Real Time



$$\text{Intensity}_\lambda = f(\lambda, l)$$





# Pall ForteBio is a Leader in Label-Free Protein Analysis



- Full life-cycle offering for protein and other biomolecular analysis
  - Instruments, consumables, software, service
  - Label-free assays based on Biolayer Interferometry (BLI)

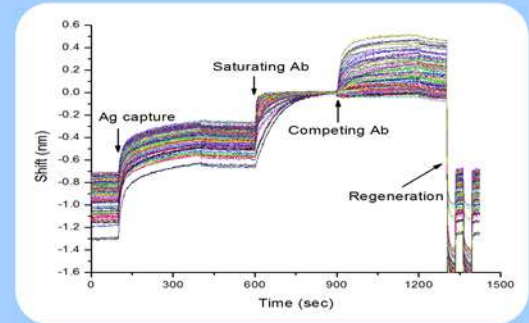
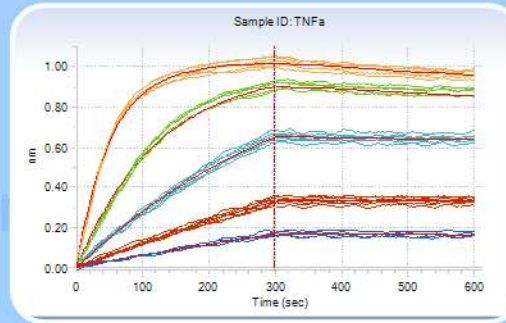
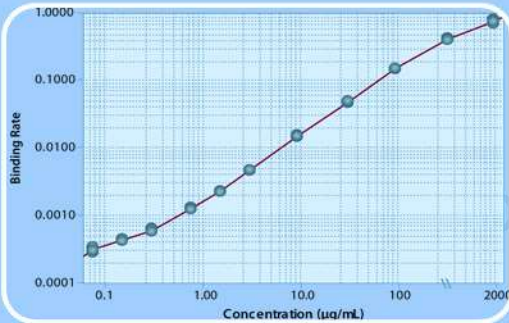


# FortéBio Application fields



- Historical applications
- Second wave
- Most Recent

# Fortebio BLI Technology : One Platform, Many Capabilities



## Quantitation

- Direct, 1-step
- Sandwich
- ELISA
- mg/mL – pg/mL

## Kinetics

- $k_a$ ,  $k_d$ ,  $K_D$
- Proteins
- Peptides, Oligos
- Small molecules

## Specificity

- Function testing
- Rank ordering
- Epitope binning
- Isotyping





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