*Ana*Light®
Bio200

Biophysics

"Accessible, Quantitative Biomolecular Structure-Function Measurement"

Quantitative, real-time measurement of biomolecular dimensions, fold density and mass

Unique ability to measure affinity and kinetics based on both mass and structural change measurements

Dynamic conformational change measurements as they happen - no mass change necessary

Understand macromolecular assembly and aggregation processes

Study biomolecules in your environment of choice - buffer, DMSO, lipids, detergents etc.

In simple terms, the Bio200 is a *'molecular microscope'* whose quantitative structural measurements can be compared directly with complementary techniques such as X-ray crystallography, circular dichroism and NMR spectroscopy, whilst also being capable of affinity and kinetic measurements at higher sensitivity than optical or acoustic biosensors.

The *Ana*Light® Bio200 System for Biophysics and Life Sciences brings Dual Polarisation Interferometry's (DPI) high-resolution measurement performance into research, discovery and development facilities.

The Bio200 provides dynamic biophysical structure-function measurements in a convenient bench top package suitable for a range of biophysical, drug discovery, proteomic, assay development and biotechnology applications in research and development.

Key Applications in Biophysics and Life Science

Biomolecular Interaction Analysis

Membrane Protein and Lipid Studies

Drug Discovery and Development

Protein – Metal Ion Interactions

Biomolecular Structure and Stability Studies

The unique, absolute measurements from the Bio200 help researchers to question and understand the intimate link between structural change in biomolecules and their function and interactions to an extent not previously possible with a laboratory-based technique.

Visit www.farfield-scientific.com/bio_apps.asp to view the full range of applications for the Bio200

Key Features

Twin flow cells give simultaneous, parallel sample analysis for control and comparison

Independent sample loading and flow rate control to each flow cell

Software controlled sample injection and flow control for precision sample loading

Simultaneous measurement on three channels gives total confidence in data integrity

Wide dynamic range (RI 1.0 to 1.49) extends solvent and buffer handling capabilities

Accurate temperature control (20-40°C +/- 0.002°C) and rapid temperature stabilisation

Flexible range of *Ana*Chip™ surfaces available to suit all applications

Simple upgrade path to fully automated *Ana*Light® BioFlex

Real-time display of all measurements for rapid data analysis and streamlined method development

Key Functions

Instantaneous, quantitative measurement of biomolecule dimensions, fold density (RI) and mass on two parallel measurement channels

Software gives option of automated reference channel subtraction when running parallel control experiments

*Ana*Light® software provides comprehensive analysis of mass changes, interaction affinity, kinetic parameters and structural behaviour in quantitative units

Measures conformational changes in biomolecules as small as 0.1 Ångstrom as they happen, with or without any mass change

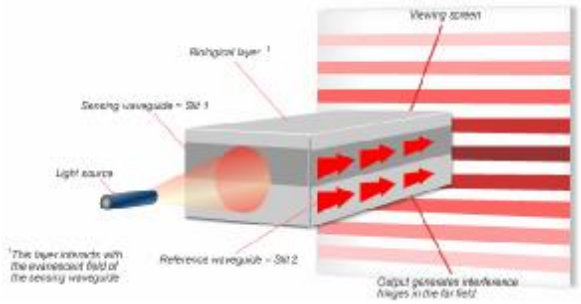
Measures mass changes as low as 0.1 picogram/mm^2 in real time, giving class-leading sensitivity and kinetic performance

Provides a unique information set on the behaviour and interactions of biomolecules and with industry-leading resolution

Automated *Ana*Chip™ and buffer calibration protocols ensure ultimate measurement accuracy

Dual Polarisation Interferometry (DPI)

The DPI technique forms the basis for Farfield's *Ana*Light® instrument range. DPI uses polarised light from a laser passing down stacked waveguides. These waveguides are incorporated into the structure of our *Ana*Chip™ range. The molecules under study are immobilised physically or chemically onto one of a range of AnaChip™ surfaces. The evanescent field emanating from the top waveguide interrogates the immobilised molecules. Changes in the resulting optical interference pattern are caused by changes in the structure and/or mass of the immobilised molecules. DPI provides the exquisite sensitivity to give previously unavailable insights into the structural changes taking place in molecular systems as they function and interact.



As an interferometric technique, DPI has a wide dynamic range so can accommodate a broad range of typical solvents, buffers and additives. Experiments can be run under conditions of choice rather than those dictated by the limitations of other techniques.

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