*Ana*Light®
BioFlex

Biophysics

"World's First Automated Biomolecular Structure-Function Assay Platform"

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 BioFlex 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® BioFlex System for Biophysics and Life Sciences brings Dual Polarisation Interferometry's (DPI) high-resolution measurement performance into facilities with a need for sample throughput.

The BioFlex provides dynamic biophysical structure-function measurements in an automated 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 BioFlex 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 BioFlex

Key Features

Automated sample loading for unattended throughput

Autosampler for precision loading from 50-vial, 96-well or 384-well sample formats

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

Software provides integrated sample handling and data processing throughout

Simultaneous measurement on three channels gives total confidence in data integrity

Intuitive method scripting for unattended operation plus manual intervention feature during runs

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 from manual *Ana*Light® Bio200

Key Functions

Instantaneous, quantitative measurement of biomolecule dimensions, fold density (RI) and mass

Two parallel measurement channels with automated throughput

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

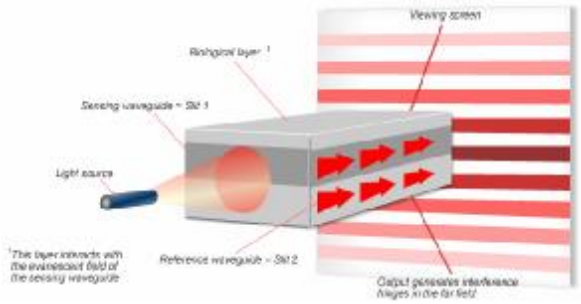
Measures mass changes as low as 0.1 picogram/mm^2 in real time, giving class-leading sensitivity and kinetic performance

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.

Farfield Scientific Limited
Farfield House
Southmere Court
Electra Way
Crewe Business Park
Crewe CW1 6GU
United Kingdom
Tel: +44 (0)870 950 9717
Fax: +44 (0)870 950 9718
sales@farfield-scientific.com

Farfield
illuminating the molecular world...