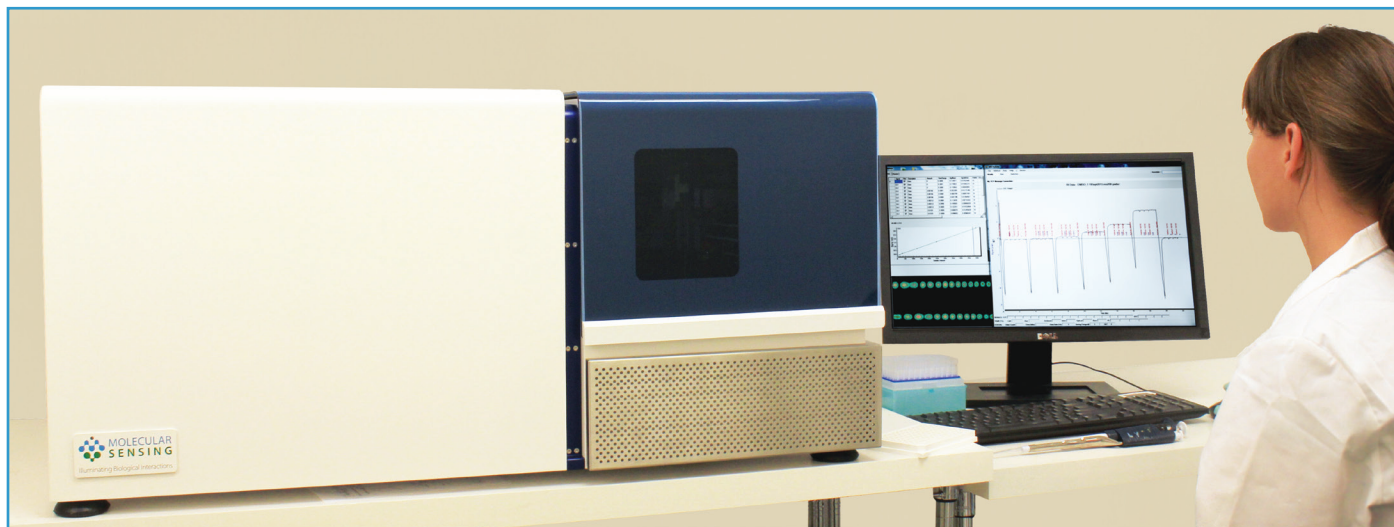


TruBind™ System 100

Conformation-Sensitive Interferometry



SYSTEM OVERVIEW

The TruBind™ System 100, powered by Back Scattering Interferometry, delivers label-free, conformation-sensitive, free-solution assay technology for the biophysical characterization of small molecule interactions with large, complex drug targets. This includes crude membrane protein preparations and other biochemically intractable target binding assays in native-like, free-solution environments – no tags or tethering, just true binding characterization!

The TruBind System 100 is proven to deliver vital data, informing pharmacology, therapeutic group and medicinal chemistry drug discovery efforts from secondary screening through to IND submission.

MAJOR APPLICATIONS

- Determine binding affinity for allosteric ligands
- Characterize affinity- versus efficacy-driven mechanism of action (MOA) for allosteric targets
- Compound target engagement verification
- Study target and ligand aggregation and aggregation inhibition
- Affinity-rank compounds to understand SAR and guide medicinal chemistry
- Secondary screening of hits from cell-based and in-vitro HTS assays
- Complement phenotypic drug discovery through verification and quantification of target engagement

KEY FEATURES & BENEFITS

- Label-free, in-solution, tether-free assay format
- Conformational change specificity
- Complex matrix-tolerant
- Mass-independent binding affinity
- pM sensitivity
- Low sample consumption
- Rapid assay development

TRUBIND™ SYSTEM 100 SPECIFICATIONS

Biophysical Measurements

Equilibrium based K_d determination from high μM to low pM with mass independent response capable of measuring interactions between small ligands and large targets ($>1:1000$, system dependent).

Optical Performance

- Limits of quantification (LOQ):
 $< 5 \times 10^{-7}$ dn
- Dynamic range:
 ~ 2.5 orders of magnitude
- Drift: $< 5 \times 10^{-6}$ dn/h

Optical System

Dual-beam Interferometer; frequency stabilized HeNe laser (power 1.5 mW); CMOS, monochrome camera, 1/2-inch sensor, resolution 3840 x 2748, pixel width 1.67 μm , 12-bit depth.

Auto-Sampler System

Dual 96-well microtiter plate inlet system. Syringe pump controlled sample sipper, with 1 μL resolution. Complete software control and coordination with method and sequence operation of biosensor.

Throughput

- 16 - 32 K_d determinations per day (dependent on the number dilutions)

Microfluidic Optical Chip

Dual channel microfluidic chip enabling free-solution measurements for over 100 assays (typical).

Available chip formats include:

1. TruBind™ Glass Microfluidic Chip: appropriate for soluble protein targets.
2. TruBind ODS Chip: appropriate for analysis of membrane protein targets as well as positively charged and amphiphobic soluble targets that adsorb to glass surfaces

Physical Characteristics

Size: 36.5/92.7 x 25/63.5 X 19.5/49.5
(length, depth, height inches/cm)
Weight: 190 lbs/86 Kg.

Electrical Properties

100 - 240 VAC, 50/60 Hz

Control/Data Analysis Software

Windows 7 operating system providing complete instrument control, real-time and post-acquisition data processing.

Company

Molecular Sensing, Inc., (MSI), is a commercial stage drug discovery tools and contract research services company with headquarters and drug discovery services laboratories in Nashville, Tennessee and an R&D center in Los Gatos, California, along with a European operations center near Frankfurt, Germany.

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