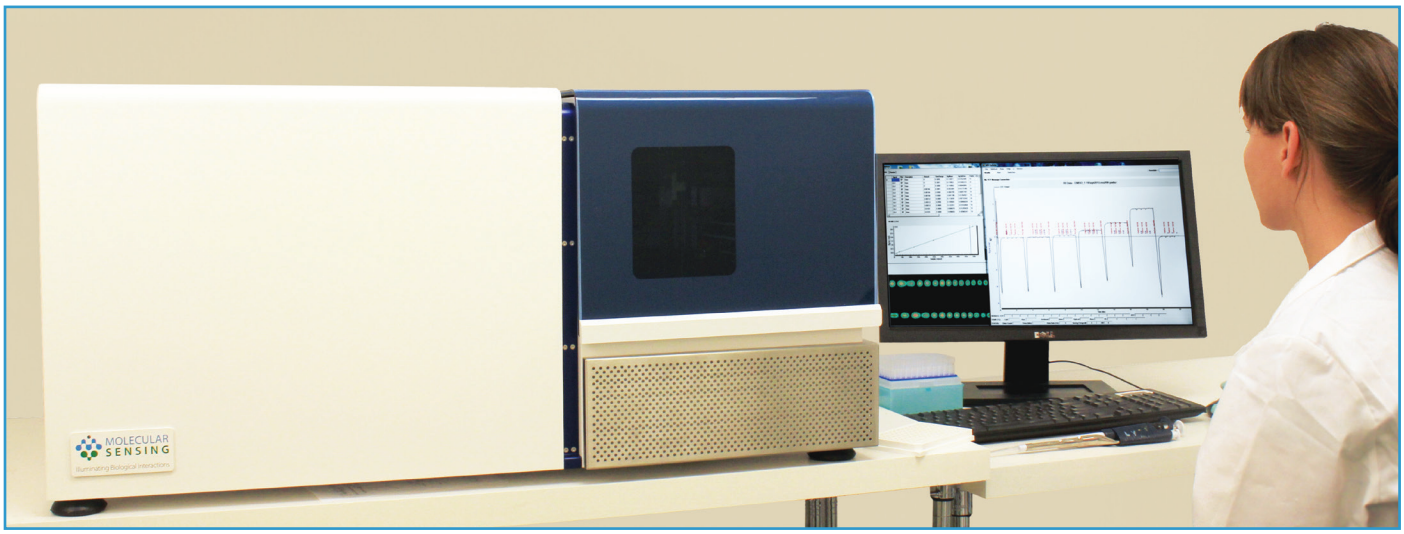
MOLECULAR SENSING

SPEC SHEET

TruBind™ BSI System 100

Conformation-Sensitive, Back-Scattering Interferometry



SYSTEM OVERVIEW

TruBind™ BSI System 100 is the world's first commercial Back-Scattering Interferometer, delivering 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 BSI System 100 is proven to deliver vital data, informing pharmacology and medicinal chemistry drug discovery efforts from secondary screening through to IND submission.

CORE FUNCTIONALITY

- Determine binding affinity for allosteric ligands
- Characterize affinity- vs. efficacy-driven mechanism of action (MOA) for allosteric targets
- Demonstrate target engagement of compounds where MOA is unclear by other means
- 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

CORE FEATURES

- 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

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TRUBIND™ BSI SYSTEM 100 SPECIFICATIONS

Biophysical Measurements

Equilibrium based K_d determination from high mM 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): < 1 X10-6 dn
- Dynamic range: ~ 2.5 orders of magnitude
- Drift: < 5 x 10-6 dn/h

Optical System

Dual-beam, Back-scattering Interferometer; frequency stabilized HeNe laser (power 1.5 mW); CMOS, mono-chrome camera, ½-inch sensor, resolution 3840 x 2748, pixel width 1.67µm, 12-bit depth.

Auto-Sampler System

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

Microfluidic Optical Chip

Dual channel microfluidic chip with BSI high resonance detection zone, enabling free-solution measurements for over 100 assays (typical).

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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