

In Vitro Assay Development and High Throughput Screening



Strategically located in the midst of the San Francisco Bay biotechnology region, the SRI high throughput Screening Core Facility (SSCF) specializes in *in vitro* assay development and automation for high throughput screening (HTS), HTS campaigns, and lead optimization for drug discovery. The SSCF Small Molecule Library contains diverse compound libraries purchased from major suppliers to the pharmaceutical industry, as well as SRI proprietary compounds. A valuable resource in SRI's Biosciences Division, SSCF has access to its expert team of drug discovery investigators in disease areas of cancer, neuroscience, metabolic diseases, inflammatory and infectious diseases. This collaborative approach ensures that our technologies, instrumentation, resources, and expertise are utilized most effectively to address clients' discovery needs.

Capabilities

- Assay probe design and development
- Assay scale-up and automation
- Cell-Based Assays:
 - Membrane proteins: GPCR, Ion Channels, and Transporters
 - Reporter assays
 - Cell cycle analysis

- Cell proliferation
- Apoptosis
- Autophagy
- Enzyme and Binding Assays
 - Radioligand binding
 - Fluorescence
 - UV absorption
 - Förster resonance energy transfer (FRET)
 - Fluorescent Polarization (FP)
 - Luminex
- Complex assays involving
 - Multi-doses / IC50 screening
 - Screening of as many as 20 cell lines at a time
 - Drug combination screening
 - 'High fidelity' multiplexed assays

SRI's HTS Facility

The SSCF performs both HTS (384-well) and mid-throughput screening (MTS) (96-well) assays. The facility offers state-of-the-art instrumentation for cell culturing, compound handling, and plate reading, including:

Plate readers for ultra-sensitive luminescence, absorbance, fluorescence intensity, fluorescence polarization, AlphaScreen and time-resolved fluorescence:

- Envision (Perkin Elmer) with the high precision dispenser unit and temperature control
- FLIPR® with both 96- and 384-well pipette heads (Molecular Devices)
- Flexstation3 (Molecular Devices) with both 96- and 384-well pipette heads
- Analyst HT 96-384 (LJL Biosystems, Molecular Devices)
- Synergy2/Gen5 (Biotek)

Automated liquid handling and compound plating systems:

- Janus workstation (Perkin Elmer) for individual well selection and serial dilutions
- Matrix Wellmate with stackers (ThermoFisher) – Performs bulk dispensing of reagents or cell suspensions into 96 or 384 well plates
- Matrix Platemate (ThermoFisher) – Performs high-precision pipetting, and plate stamping.
- Vessette (ThermoFisher) for individual well selection and serial dilutions

Support Instruments

- Avanti J-26XP (Beckman) for plate centrifuge
- Barcode printer and readers



Contact Us

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About SRI Biosciences

SRI International Biosciences teams with pharmaceutical and biotechnology companies, academia, foundations, and government agencies to solve important problems in global health. SRI Biosciences conducts basic research, drug discovery, and drug development, including contract research. SRI has all of the resources necessary to take R&D programs from idea to IND®—from initial discovery to investigational new drug applications to start human clinical trials—and specializes in cancer, immunology and inflammation, infectious disease, and neuroscience research.

To date, SRI has helped advance more than 100 drugs into clinical trials, including a number of its own discoveries, several of which have reached the market. SRI is also working at the nexus of science and technology to create new technology platforms for the next generation of drug discovery and development in areas such as diagnostics, drug delivery, medical devices, and systems biology.



About SRI International

Innovations from SRI International have created new industries, billions of dollars of marketplace value, and lasting benefits to society—touching our lives every day. SRI, a nonprofit research and development institute based in Silicon Valley, brings its innovations to the marketplace through technology licensing, new products, and spin-off ventures. Government and business clients come to SRI for pioneering R&D and solutions in computing and communications, chemistry and materials, education, energy, health and pharmaceuticals, national defense, robotics, sensing, and more.

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