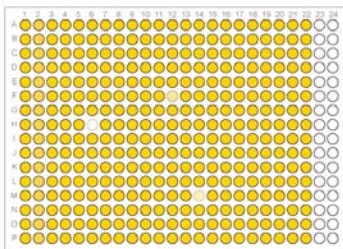


The RRC High-Throughput Screening Facility

Molecular Biology Research Building
900 S. Ashland Ave, Room 3211
Chicago, IL 60612

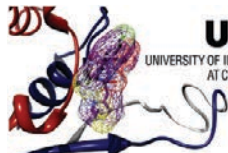
Director: Kiira Ratia
contact: kratia@uic.edu
312-355-1296

<http://www.rrc.uic.edu/hts>



UIC RESEARCH
UNIVERSITY OF ILLINOIS AT CHICAGO RESOURCES CENTER

UIC Center for Clinical and Translational Science



UIC Collaborative Engagement in Novel
UNIVERSITY OF ILLINOIS AT CHICAGO Therapeutic Research and Enterprise

COLLEGE OF PHARMACY | COLLEGE OF MEDICINE | COLLEGE OF LIBERAL ARTS & SCIENCES





The RRC High-Throughput Screening Facility

Robotic workstations:

Tecan Freedom EVO 200: 96-channel dispensing + 8-channel liquid handling arm. Customizable deck.

Perkin Elmer Janus: enclosed in bio-safety cabinet. 384/96-channel dispensing.

siRNA library:

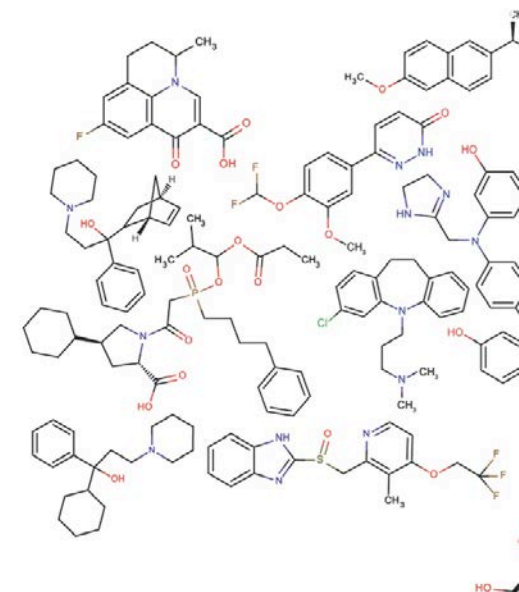
Ambion Silencer® Select Human Druggable Genome siRNA Library V4

Microplate readers:

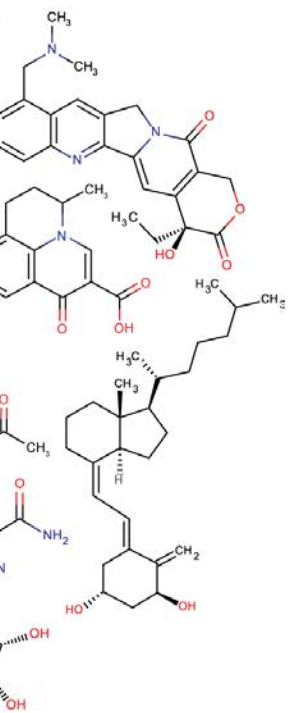
Tecan Infinite F200 Pro
Perkin Elmer Envision (with Alpha Screen module)

plate washer:

Tecan Hydrospeed for 96- and 384-well plates



compound collections



Commercial compound collections (>200,000 compounds):

Diverse, drug-like sets:

Chembridge DiverSet, NovaCORE, Express Pick collections (165,000 compounds)

Maybridge HitFinder (14,400 compounds)

FDA-approved drugs:

Prestwick Library (1,200 compounds)

Chembridge **CNS set** (10,000 compounds with increased probability of BBB permeability)

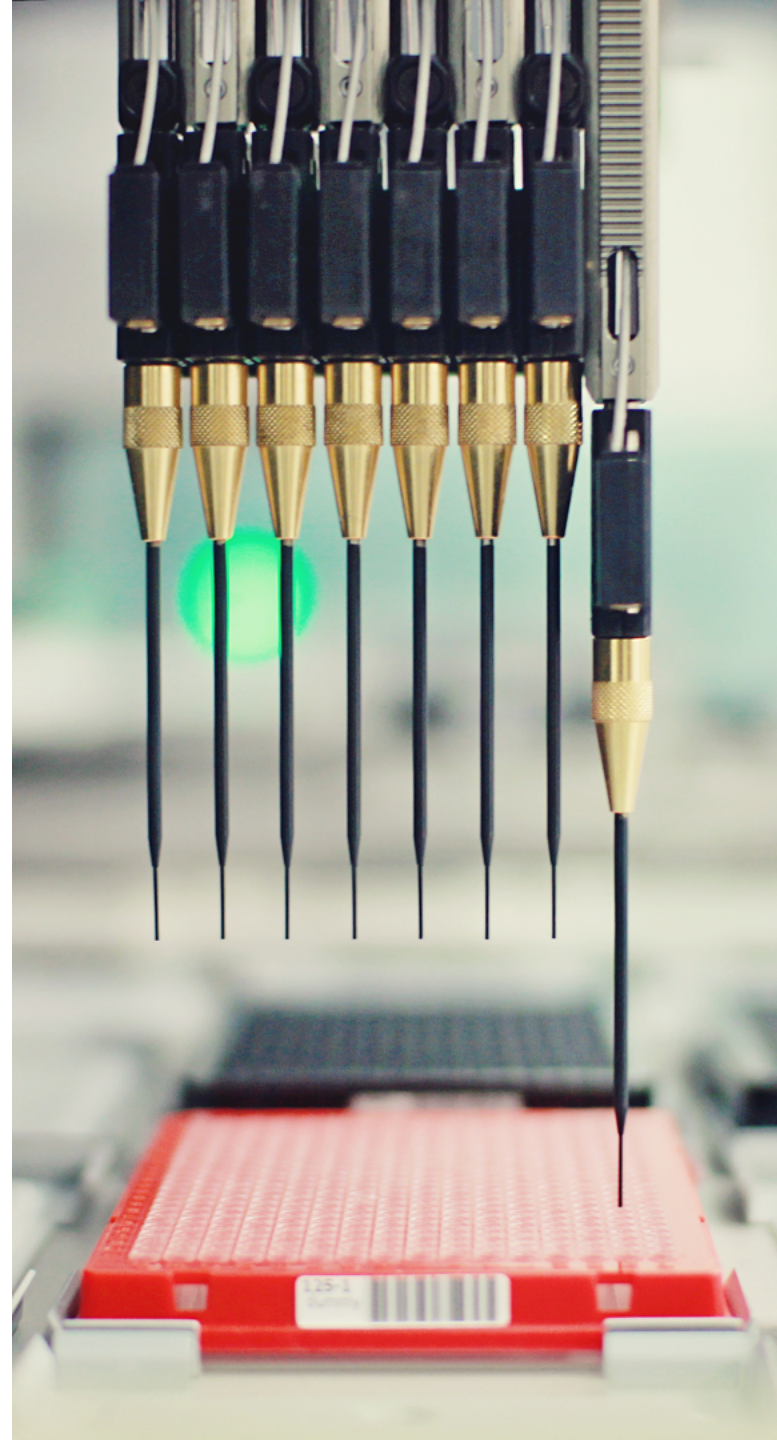
fragment library: ~300 (Zenobia) and 2,000 from ChemDiv

targeted libraries:

Enzo Biochem Kinase Inhibitor library

Enzo Biochem Nuclear Receptor Ligand library

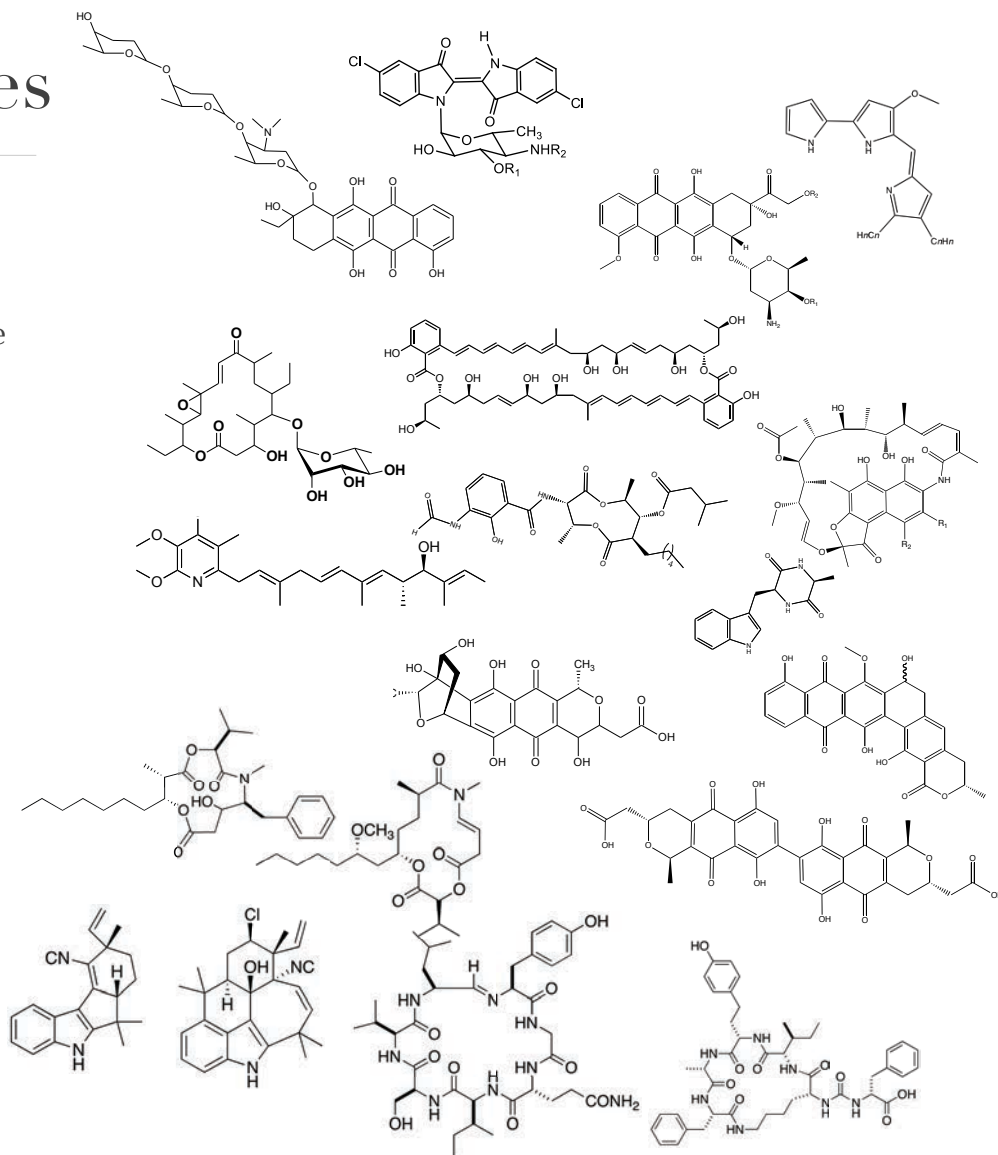
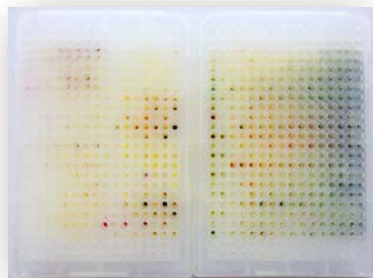
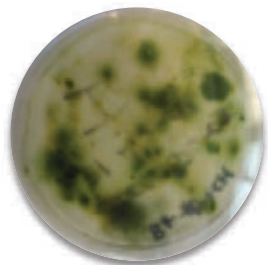
UIC chemistry library: 1,000+ curated, synthetic samples from Chemistry and Medicinal Chemistry Depts, offer more complex and unique chemistries



Natural products libraries

Murphy lab & Orjala labs (>4,000 samples)

- >350 aquatic **actinomycete strains**; 1,440 metabolite fractions, global collection locations
- >3000 metabolite fractions from 650 strains of **cyanobacteria** collected within the US
- all fractions contains approximately 10 compounds
- structurally diverse, cover a large chemical space
- represent new chemical scaffolds not typically encountered in synthetic small molecule screening collections



Biochemical & cell-based assays

expertise in biochemical assays

- kinase, protease, various viral and bacterial targets, enzyme kinetics and mechanism
- flexible deck layout—screen up to 10,000 compounds in duplicate in a working day

Absorbance

Fluorescence intensity

Fluorescence

polarization

FRET, TR-FRET, HTRF

AlphaScreen

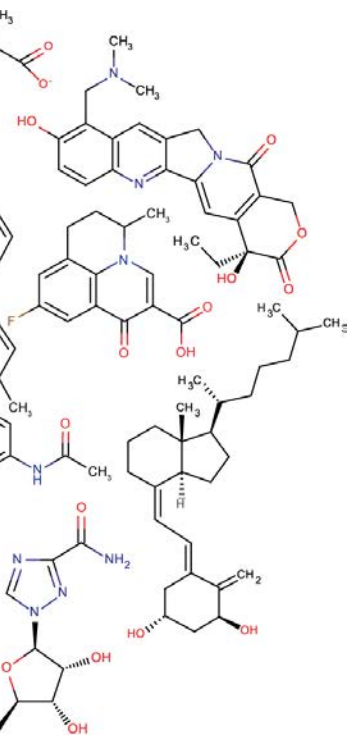
Luminescence

Equipped to run cell-based assays with a uniform readout

- Mammalian, yeast, and bacterial cells
- Assays such as viability and reporter gene



The RRC High-Throughput Screening Facility



pre-screen:

assay development
assay optimization

high-throughput screening (primary assay)

compound libraries
robotic workstations
multimode detectors
data collection

post-screen

data analysis
cherry pick hit compounds
confirmatory assays (dose response curves)
counter-screening & secondary assays

