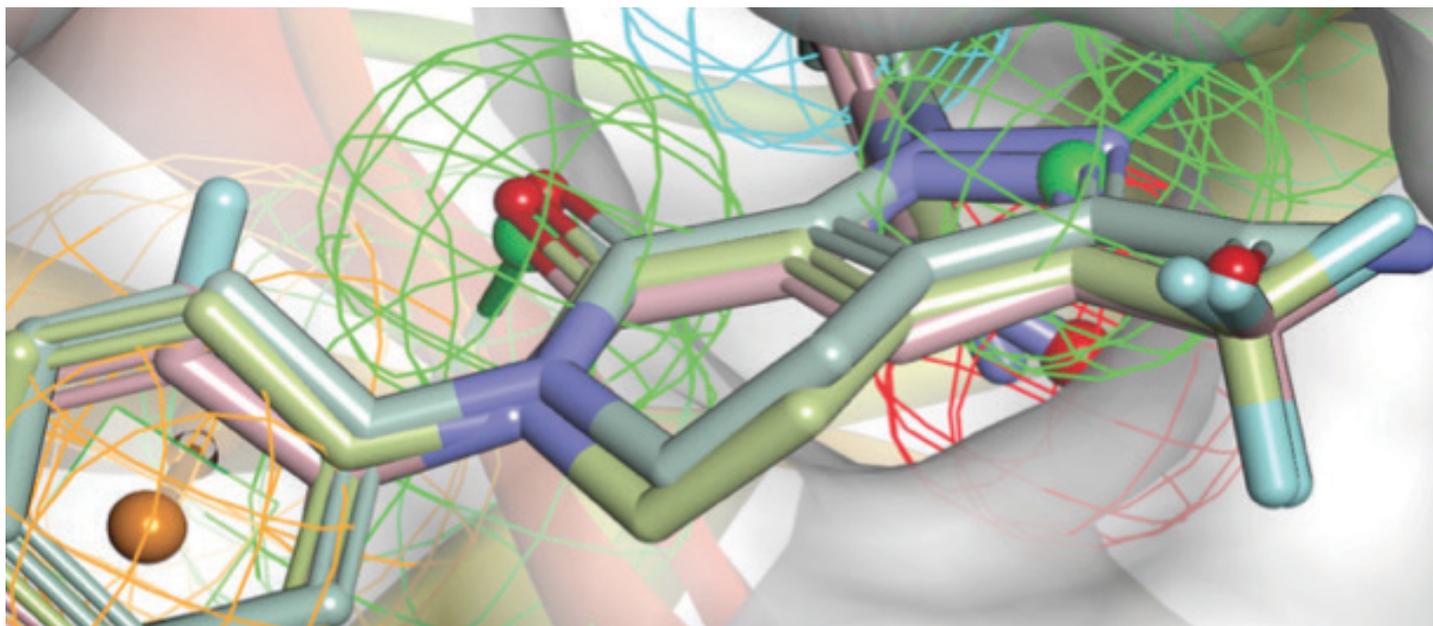


Medicinal Chemistry (MedChem)

A University of Tennessee Health Science Center Institutional Core



MISSION

The MedChem Core's mission is to accelerate drug development and research on the UTHSC campuses and in the Memphis area research community by providing consultation and laboratory services in medicinal chemistry, synthetic chemistry, and analytical chemistry.

INTRODUCTION AND SERVICES

The Medicinal Chemistry (MedChem) Core was established by the Office of the Vice Chancellor for Research in Memphis, TN in September of 2017. Synthetic chemistry resources are a necessary cross-cutting platform to support a robust drug discovery and drug development research program. The MedChem Core will assist UTHSC investigators in all aspects of small molecule drug development and research, including, but not limited to, target validation, lead optimization, tool compound custom synthesis, small scale and multi-gram scale synthesis and purification, structural determination, and purity analysis.

FACILITIES

The core is located in the College of Pharmacy Building. The Director manages a 400 sq. ft. synthetic chemistry laboratory equipped with chemical fume hoods, balances, heating mantles, stirrers, refrigerators, freezers, Buchi R-300 rotary evaporators with V-300 vacuum pumps, a lab oven, a Labconco Freezone 4.5 Liter lyophilizer, a Buchi Melting Point M-565, a Discover SP Microwave Synthesizer and a Reveleris PREP Purification System.

In addition to these core facilities, the MedChem core has access to the College of Pharmacy Shared Analytical Facility directed by Dr. Wei Li (uthsc.edu/pharmacy/research/analytical-facility.php), which includes NMRs (a Varian Inova 500 and a Bruker Avance III 400), LC-MS instruments (Waters Xevo G2-S QTOF with Waters Acquity UPLC and AB SCIEX TQ5500 with Shimadzu Nexera XR HPLC), and other essential analytical instruments, such as IR spectrometers, UV spectrometers, fluorometers and a polarimeter.

SERVICES

The MedChem core supports:

- Target Validation and Drug Design
- Lead Optimization
- Small Molecule Custom Synthesis
- Scale-Up Synthesis and Purification
- Structural Determination by NMR, MS, Elemental Analysis, etc
- Consultation on any issue related to medicinal chemistry and drug development

STAFF

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CORE DIRECTOR

Dr. Jiawang Liu, the core director, joined the UTHSC in September of 2017. He earned his BS degree in Pharmaceutical Sciences (2002) and his PhD degree in Medicinal Chemistry (2007) from Peking University Health Science Center, College of Pharmaceutical Sciences, in Beijing, China. He has over 15 years of experience in drug design, synthesis, and screening, with 51 scientific papers published in the peer-reviewed journals. In addition, he is one of the original inventors of an orally bioavailable estrogen receptor downregulator, ZB716, which is indicated for metastatic estrogen receptor (ER)-positive breast cancers.

UTHSC RESEARCH CORES AND SHARED RESOURCES

UTHSC Institutional Cores are dedicated to the success of your project. We serve the UTHSC research community by providing access to state-of-the-art equipment and to expert consultation services.

uthsc.edu/research/institutional-cores/index.php

For more information:

Medicinal Chemistry (MedChem) Core

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