DRUG DISCOVERY PILOT PROJECTS – REQUEST FOR APPLICATIONS

INSTITUTE FOR INTEGRATION OF MEDICINE & SCIENCE
CENTER FOR INNOVATIVE DRUG DISCOVERY (UTSA AND UT HEALTH SA)

Overview

The Institute for Integration of Medicine & Science (IIMS) and The Center for Innovative Drug Discovery (CIDD) are soliciting proposals for pilot project awards. CIDD is composed of two facilities: a High-Throughput Screening (HTS) Core located at University of Texas Health San Antonio (UTHSA) and a Medicinal Chemistry Core at University of Texas San Antonio (UTSA). The goal of the Pilot Project Program is to support early-stage pre-clinical, small-molecule drug discovery studies that will lead to increased collaboration, multi-disciplinary, and institutional studies, and community-based research that will likely compete successfully for national grant support and further funding. The pilot program is supported by the Clinical and Translational Science Award (CTSA) from the National Institutes of Health (NIH).

The CIDD HTS and Medicinal Chemistry Cores operate under the directorship of Drs. Daohong Zhou and Stan McHardy, respectively. Additional capabilities include cores for Target Identification, Structural Biology, Preclinical Pharmacology, and Computer-Aided Drug Discovery. The highly experienced CIDD team members provide collaboration, consultation, and program strategy opportunities in taking small-molecule compounds through all stages of the pre-clinical drug discovery process.

Eligibility

Applicants must hold faculty-level appointments at UTHSA, UTSA, or one of the additional CTSA partner institutions (UT SoPH Regional Campus in San Antonio, UT College of Pharmacy, TX Biomed, San Antonio Metropolitan Health District, San Antonio Military Health System, South Texas Veterans Health Care System, University Health). Pilot awards target, in particular, junior faculty with potential for career development impact. However, senior faculty are eligible if the project is a novel departure from currently funded programs. The pilot award is open to all therapeutic areas.

Submission, terms and conditions

An individual may submit no more than one project as Principal Investigator, but may also serve as a Co-Investigator on a second project. The deadline for receipt of the full application is **5 PM on August 19, 2022**. For UTHSA applicants, a Certificate of Proposal (COP) is not required. Full proposals should be submitted electronically, each in a single attached PDF file emailed to **iims-ctsa@uthscsa.edu**. Please include the following in the email subject line: **CTSA/CIDD Pilot Project Application**

Budget and financial policies

The IIMS/CIDD pilot program funds will support awards for high throughput screening and/or for medicinal chemistry/custom synthesis research. The IIMS/CIDD pilot funds are not intended to support salaries or project work outside of the CIDD labs. The budget for each pilot award is capped at $15,000. Indirect Costs (F&A) should not be included in the budget. Funds are available in the current cycle to support four projects, two using the UTHSA HTS Core and two in the UTSA Medicinal Chemistry Core (blended projects between the two cores are also possible). Applicants are encouraged, but not required, to identify matching funds to supplement the IIMS/CIDD Drug Discovery pilot awards, in case the project budget exceeds the $15K cap. The funds for the awarded pilots will not be transferred to the investigator's lab accounts, but rather will be held within IIMS/CTSA to pay for services provided by the CIDD Cores. Applicants should consult with Dr. Daohong Zhou (zhoud@uthscsa.edu) or Dr. Stanton McHardy (stanton.mchardy@utsa.edu), directors of the HTS and Med Chem Cores, respectively, for answers to any questions about the project design or costs. Applicants need not submit detailed budgets, as these will be developed prior to project initiation.

Application requirements and format

Applications should be prepared following the format described below. Font size should be no smaller than 11 point, preferably Arial. The font size for figures, figure legends, charts, and tables may be smaller, but must be clearly legible. Margins all-around should be at least 0.5". Pages should be numbered sequentially. **The maximum permitted length of the application components is: Cover page – 1 page; PI Biosketch (NIH format) – 5 pages; Narrative – 3 pages; Appendices are not allowed.**

The organization of the proposal should be as follows:

- **Cover page (1 page)**
  - Title of project, Targeted Therapeutic area, Principal Investigator(s), Faculty Title, Home Institution, Contact Information.
- **NIH Biosketch of Principal Investigator (5 pages)**
- **Narrative (3 pages)**
  - Background and significance
    - Description of biological target of interest and its relation to the targeted disease area or anticipated therapeutic outcome and evidence to support confidence in mechanism for the disease indication.
  - Hypothesis and supporting preliminary data
    - Provide the current program status and supporting preliminary data (i.e., biochemistry/pathway studies, cell line development, *in vitro* assay development, screening small molecules, x-ray studies and structure-based drug design, analog screening and structure-activity relationships development, *in vivo* studies).
    - Provide information on your current *in vitro* systems, cell lines, assays.
    - Provide structures and properties of lead compounds, if available.
  - Proposed scope of work and specific aims
    - Describe scope of work and which CIDD core facility will be used.
    - Provide specific aims and anticipated research outcomes. Note costs described below:
  - Future plans for funding
    - Provide prospects and specific plans for outside funding based on results and data generated by the CIDD pilot program.

Review process and criteria

All applications will be reviewed by the IIMS/CTSA Core H Drug Discovery Steering Committee. Scientific merit will be scored by this group based on the following criteria:

- Significance
- Novelty / innovation
- Strength and feasibility of the program, including:
  - Design and feasibility of studies
  - Preliminary data supporting confidence in mechanism
- Likelihood of future NIH or other competitive external funding

Funding decisions will be based on scientific merit, as well as programmatic considerations, such as breadth and depth of the overall pilot program, and balance among program areas and disciplines.

Cost Structure for the HTS Screening Core Facility

Depending on the approach used (biochemical, cell-based or high content imaging), investigators will be able to screen a maximum of 60,000 compounds. The provided services will include assay design and development, primary HTS, secondary screens to identify false positives and dose response experiments to determine potency. Note: All screening costs include costs of plates and tips, but not specialized reagents needed for each screen.

Cost Structure for the Medicinal Chemistry Core Facility

Custom synthesis and medicinal chemistry costs are dictated by complexity of the chemistry and length of the synthesis. Thus, the core will provide custom quotes and cost estimates based on the details of specific chemistry. However, the CIDD offers an FTE rate for work on programs as specified below. None of the costs below includes project specific materials, solvents or reagent costs, as well as UTSA indirect costs.

CIDD medicinal chemistry staff title, degree and experience	Monthly FTE Rate at 100% effort
Special Research Associate, Ph.D., 8+ years natural product synthesis and medicinal chemistry experience	$8,364
Research Scientist Associate IV-Ph.D., 3+ years natural product synthesis and medicinal chemistry experience	$5,768
Research Scientist Associate IV, B. Sc., 15+ years industry experience synthesis and medicinal chemistry	$6,424
Research Scientist Associate IV-M. Sc., 8+ years industry experience in synthesis and medicinal chemistry	$6,173

In all synthesis work carried out in the CIDD, all compounds prepared will be fully characterized by ^{1}H and ^{13}C NMR and HPLC/MS and target a purity of >97%. All compounds prepared are registered with a CIDD number and delivered to the client along with a compound delivery sheet containing all required compound information.