H Foundation
Pilot Project Awards
High Throughput Screening and Medicinal Chemistry

Release Date: June 5, 2013

Application Due Date: July 7, 2013

Funding: $10,000 per project; potential for additional $5,000 for joint project with 2nd CLP Core (CAMI, rPPC, PCE, QBIC or DTC)

Through the generous support of the *H Foundation,* **members of the *Basic Sciences Research Division*** of the *Robert H. Lurie Comprehensive Cancer Center of Northwestern University* can apply for a pilot project award **to advance basic and translational research projects with cancer relevance**. The pilot awards will provide up to $5,000 directly to the **High Throughput Analysis (HTA) lab,** or $10,000 on behalf of an investigator directly to **ChemCore** for use of the core facility services. Up to $15,000 is available for projects that utilize both the HTA lab and ChemCore. It is expected that these awards will enable investigators to obtain preliminary results that can be used to support research grant applications to external funding agencies for more extensive projects.

Award Objectives and Scope
The overall purpose of this award is to fund the use of the HTA or ChemCore facilities to carry out pilot screening and/or chemistry projects with basic or translational research objectives with cancer relevance. The proposals **must represent new and innovative research, not extensions of currently funded projects**, for which pilot funding is needed to generate preliminary data for longer-term programs. It is envisioned that promising pilot projects will be developed into R01, R03, or R21 grants.

HTA and ChemCore Services
The **HTA** facility offers automated liquid handling down to nanoliter volumes, access to 70,000 small molecules and genome-scale RNAi and yeast screening libraries, as well as high throughput fluorescence, luminescence, label-free, and high content image-based detection platforms for analysis of biochemical and cell-based assays. HTA scientists have expertise to adapt existing protocols to high throughput screening formats and are capable of developing entirely new approaches from basic science observations. Visit www.northwestern.edu/hta to learn more about instrumentation and services.

ChemCore offers services in the areas of medicinal chemistry, molecular modeling, and small-molecule purification. These capabilities include hit evaluation and hit-to-lead development chemistry, compound analog synthesis, chemical probe synthesis, virtual screening, and *in silico* compound docking. A primary goal of ChemCore's medicinal chemistry work is to add value to preliminary hits by creating increasingly drug-like molecules that will have enhanced therapeutic potential. Please visit www.cmidd.northwestern.edu/chemcore to find additional information about capabilities and services.

Together, the HTA core facility and ChemCore provide an early stage drug discovery pipeline at Northwestern that spans target identification, *in silico* and wet lab screening, hit confirmation, and hit-to-lead optimization. Pilot projects may incorporate a single or multiple components of the pipeline.

Examples of potential pilot projects include, but are not limited to, the following:

- Development, optimization, and/or miniaturization of biochemical or cellular assays to gear up for a screen; assay validation with small scale screen of selected chemical or biological library members
- Large scale screen (thousands of compounds or conditions) using an existing assay with appropriate throughput and robustness
- Testing of known bioactive compounds to select candidates for medicinal chemistry or to evaluate analogs in hit-to-lead development
- Design and synthesis of hit analogs (hit-to-lead chemistry) to improve potency or other drug-like properties
- Synthesis of alternative hit chemical scaffolds to develop new intellectual property and improve development prospects
- Synthesis of specific tool compounds to probe biological processes

Application Process

Applications Due July 7, 2013

- Discuss projects and feasibility with the ChemCore and HTA, contact Gary Schiltz in ChemCore at gary-schiltz@northwestern.edu or Matt Clutter in the HTA lab at matt.clutter@northwestern.edu.
- Up to 2-page application (including figures and references) with the following sections: Specific Aims, Research Plan, Expected Outcomes, and Potential Pitfalls
- The application should **clearly state the cancer relevance** of the project
- Describe the innovative aspects of the application, especially regarding the proposed target, phenotype, or hit compound(s) in the context of existing data and publications
- Give a brief description of how the pilot project data will be used to achieve longer-term research funding or continuation of the project
- For HTA screening projects, describe any existing assays or model systems including throughput and robustness characteristics. For ChemCore projects, describe the starting point (initial hit or known bioactive molecule) and the specific goal (e.g., lower toxicity, higher potency, blood-brain barrier permeability) and the means to evaluate these parameters for new compounds.
- Include any preliminary data that may validate the drug target or phenotype of interest, the assay used to evaluate chemical activity, or the initial bioactive molecule you propose to modify.
- Include a current NIH-style biosketch (limit 4 pages total) for the PI and any key personnel
- Applicants should not submit a budget. Applicants whose projects are reviewed will be provided a suggested research plan and associated budget prior to final award notification.

Evaluation Process

Applications will be evaluated based on:

- Cancer relevance of the target, phenotype, or hit compound(s)
- Overall scientific merit, with particular attention given to the innovative characteristics of the proposal and the unique outcomes that are expected
- Likelihood of successfully achieving the application's aims within the scope of the award
- Prospects for obtaining continued funding of the project

Responsibilities of the Awardees

As a condition of funding, awardees will be expected to submit a one-page progress report two months prior to the end of the project year. Award funding will be expended within one year. Unspent funds will be withdrawn and reallocated to other projects.

Applications should be submitted via NUCATS ASSIST at: https://grants.nubic.northwestern.edu/welcome

Application deadline: July 7, 2013. Funding decisions will be announced in July.

For questions regarding any of the H Foundation Pilot Awards, contact Jenna TerMolen at (847) 467-0965 or email jter@northwestern.edu