Request For Applications
Center for Drug Discovery
(1/20/2016)

Title: Collaborative Drug Screening for Pediatric Diseases

Eligibility: All Primary Faculties in the Department of Pediatrics, Emory University, and Children's Healthcare of Atlanta

Application deadline: February 20, 2016

Objectives: Pediatric Center for Drug Discovery (CDD) encourages basic and clinical researchers to submit applications focused on cell culture models of pediatric diseases for funding to support drug discovery assay validation and library screening. CDD will provide $33k to selected applications proposing phenotypic assays for medium-throughput drug screening of chemical libraries provided by CDD. Fluorescence-based cell imaging (i.e., GFP, 3 color immunofluorescence, etc.) or enzyme based (i.e., luciferase) are recommended as phenotypic readouts for the robotized drug screening instrument available through CDD (BioTek Cytation 3). Applicants should demonstrate the reliability and simplicity of the phenotypic readouts as well as disease relevance and significance. The long-term goal of this RFA is to enable the researchers to explore the drug discovery pathways for future translational and clinical applications.

Background: Emory University has been a key leader in academic drug discovery as demonstrated by the world-renowned chemistry group of the Laboratory of Biochemical Pharmacology (LOBP) led by Dr. Raymond F. Schinazi who is also a CDD member. CDD, which was established in 2013, has been recruiting and establishing intense collaborative investigations with LOBP for drug discovery against a number of infectious pathogens including RSV, Influenza virus, Dengue virus, Ebola virus, Chikungunya, as well as HIV-1. We plan to expand our efforts to Zika virus because of its importance to pregnant mother and neonates.

Through this RFA, CDD plans to launch extensive collaborative drug screening efforts for targeting pediatric diseases that many department and CHOA faculties are currently studying. In 2013, together with LOBP, CDD purchased a BioTek Cytation 3, a robotized award winning drug screening instrument with capability for high - and medium – throughput drug screening. The capabilities of this instrument include automated imaging (3 color plus bright field for cell counting), fluorescence, absorbance, and luminescence. Also, CDD will purchase several chemical libraries of US FDA approved compounds and other biological active chemicals, using as minimal toxicity and chemical diversity as a primary selection criteria.

This RFA will support **3 applications** that successfully fulfill several key criteria: 1) disease relevance and significance, 2) cell culture based phenotypes that can be read by Cytation 3 (http://www.biotek.com/products/imaging/cytation3_cell_imaging_multi_mode_reader.html) and 3) feasibility, reproducibility and simplicity of the phenotypic readouts/systems. Selected applicants will each be awarded $33,000 to be used for conducting the entire drug screening process with one medium-throughput library (typically ~2,000 compounds). The compounds will be provided to the laboratories of the awarded PIs, and the laboratories will perform the exposure of the biological systems to the compounds and complete the assay. The compound-treated assay systems will be delivered to CDD where CDD personnel will analyze the delivered systems with the Cytation 3 instrument. The CDD personnel will collect and deliver the screening results the PIs. Discussions for further research beyond the initial screening will be arranged upon the completion of the screening. While it is preferred that the entire process should be covered by the awarded support, any additional costs beyond the awarded budget will be the responsibility of PIs outside CDD.

Decision announcement: 3/20/2016 (The supports for the selected projects will be available immediately after the funding decision)

Budget: $33,000 including salary and supplies

Date for the completion of the drug screening/data delivery and the end of the funding: 12/31/2016

Application format (one single PDF file):
1) PI's NIH Biosketch
2) Science narrative (3 pages):
Page 1: Background and significance
Pages 2 and 3: Description of the tissue-culture phenotype/assay with data, which demonstrates feasibility, reproducibility and simplicity of the phenotype assay.
Page 4: Budget details: $33,000 including salary and reagents.
3) Single space, Arial 11, and references should be in separate pages.

*** All applications should be submitted to Karen Kennedy by email (kmurra5@emory.edu) by 2/20/2016.**

*** Please email Dr. Baek Kim (baek.kim@emory.edu) if you have any questions about this RFA.**