

Core Facility Name Johns Hopkins Drug Discovery Group

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Amount of Funding Requested \$25,000

Briefly describe the core services you offer: Located in the new Biotechnology Park, Johns Hopkins Drug Discovery (JHDD) was created in 2010 with the mission to identify novel drug targets arising from JHU faculty's research and to translate them into new drug therapies for a wide range of human disorders. The multidisciplinary team of scientists at JHDD is collectively capable of providing laboratory services in the following areas through iLab; medicinal chemistry, screening assay development, and drug metabolism and pharmacokinetics.

Briefly describe your current user base and how the current proposal will expand that base? Since our core facility was incorporated into iLab in 2016, we have served fifteen investigators in a variety of service areas including, for example, providing access to NMR/LC-MS/lyophilizer/Parr hydrogenator equipment and performing bioanalysis for pharmacokinetics/metabolism studies. This proposal will aim to reach out to investigators in need of "Synthesis Service" in order to take full advantage of our chemistry capabilities and further expand our user base through the iLab.

What specific services do you plan to offer as part of this RFA? The specific service offered through this RFA is "Synthesis Service". The Medicinal Chemistry unit of JHDD is uniquely positioned to offer chemical synthesis of small molecules when they are not commercially available. The service covers a wide range of chemical synthesis services including but not limited to literature compound synthesis, scale-up synthesis (for in vivo studies), and analog synthesis for preliminary structure-activity relationship (SAR) analysis. JHDD's Medicinal Chemistry unit, equipped with the most advanced instruments, is capable of providing high-quality service in this area. Compared to other services offered by JHDD, however, "Synthesis Service" has been under-utilized mainly for two reasons; (i) Awareness of this service among iLab users has not yet risen to the level needed to gain attention from the wider user base; (ii) The cost of "Synthesis Service" is often a major barrier to investigators needing these services who are not currently funded or who are with insufficient funds.

How do these services address the goals of the pilot program? First of all, our offering through the RFA will raise awareness of this unique service offered by JHDD through iLab. Since the majority of JHU investigators at JHU SOM lack synthetic chemistry capabilities, this service is uniquely positioned to bridge the gap and help users develop more multidisciplinary research approaches. The opportunity to promote our "Synthesis Service" through Core Coins will expand our user base and increase the size of our repeat customers. Second, given the costs associated with "Synthesis Service", Core Coins would enable us to provide invaluable

opportunities for investigators with insufficient funds but in dire need of chemistry supports. Access to our chemistry capabilities will help them to conduct key experiments that would only be possible with the molecules provided by JHDD, possibly leading to new grant proposals and/or publications.

Should the Core Coins be awarded to JHDD, the first step will be to publicize the RFA through the iLab Core Funding site

How would you select recipients to receive core services? Please describe the process and criteria you might use.

(<https://www.hopkinsmedicine.org/research/resources/synergy/core-in-a-box/funding/>). The RFA will also be posted to the JHDD web site (<https://drugdiscovery.jhu.edu/>) as well as to the School of Medicine-wide messaging system. The submitted requests and projects will be reviewed by a committee comprising of Drs. Takashi Tsukamoto, Barbara Slusher, Camilo Rojas, and Rana Rais. This committee will select the projects for funding using the following criteria as guidance; (i) early stage or new investigators based on the NIH definition; (ii) new users to the core, (iii) current funding landscape; (iv) impact of chemical molecules to be provided in future grant applications/publications; (v) probability to lead to collaborative drug discovery projects; (vi) feasibility of the requested chemical synthesis.

How do you plan to allocate the amounts available to individual investigators?

JHDD will subsidize up to \$7500 of the service cost per request, depending on the number of awardees and their funding situations. We anticipate that we will be able to fund 4-6 investigators through this mechanism. In exchange, we will request that awardees acknowledge our service in any publications involving the chemical molecules provided by us through Core Coins. The awardees will be surveyed about their experience, the impact of the Core Coins, and any suggestions that may help us improve the quality of our service.