Neuroscience Consortium (a.k.a MassCATS): New Target Nomination Form

For the initial review: very brief descriptions and summaries - the inquiries below are the types of questions that should be addressed, as applicable for each target. Please try to stay within a total of a ***2-page limit****.*

If you are an academic partner, please include an ***NIH style biosketch*** *together with your nomination form as a* ***single PDF*** *for submission. Please submit your application to Dr. Brad Hyman (BHYMAN@mgh.harvard.edu) and Dr. Mark Albers Albers.mark@mgh.harvard.edu by* ***Friday, June 14, 2024*** with the subject line "Neuroscience Consortium 13 Application."

Background: Neuroscience Consortium (a.k.a MassCATS) is a collaboration of MGH with the Massachusetts Life Sciences Center (MLSC), representing a consortium of pharma partners interested in supporting pre-competitive studies related to Alzheimer's and neurodegenerative diseases.

The intent of the program is to identify or validate targets that may not have sufficient knowledge about them or sufficient preliminary data to support a deeper investment by pharma or other vendors; this is meant to be interpreted broadly. One example is: "what is the most important experiment that can be done to convince yourself that the target is related to the human biology of AD"; another example is "what method of platform needs to be developed to be able to answer questions about putative targets?" The projects are intended to be 6 month-1 year in duration, and explicitly are not postdoc fellowships but experiments, even if high risk, directed at moving the field forward. Applications from scientists who have not been involved in neurodegenerative disease research per se is encouraged.

For Round 13: We continue to invite applications from scientists from all fields who want to participate. In addition to this "open ended" invitation, the current round is particularly seeking proposals in the following six areas of investigation:

1. ***Neuroinflammation/microglial biology***
2. ***Genetic "hits"***
3. ***In vitro 3D cell models of AD pathology***
4. ***Cerebral Amyloid Angiopathy / Amyloid Related Imaging Abnormality (ARIA)***
5. ***RNA Biology***
6. ***Mitochondrial dysfunction***

A. Demographics

Title:

PI:

Institution/Contact information:

B. Research proposal (2 pages max, please)

Target Name: _____ or Technology: _____

Part 1. Rationale (~ ½ page; please address the following, as applicable for target or for goal of data analyses). **Please try to include:**

Level of Current Validation: *include what you think needs to be replicated or further validated to support nomination –include genetic, physiological, or clinical data if available; what model systems are available or need to be built? What hypotheses could be generated from successful conclusion of proposed work?*

What Screening Assays, Pharmacological tools, *in vivo* target engagement and efficacy assays are available or need to be developed? *(e.g., molecular, cell based, whole animal, human (biomarkers). If already available, are screening assays suitable for High Throughput Screening? What alternative strategies may be feasible for identifying chemical hits – e.g. structure-based drug design, literature?)*

How would this impact clinical trials? / What would a clinical POC look like? Although not needed for some programs, in general it is never too early to think about this... *What is concrete goal of therapeutic approach - disease modification/prevention, etc.). Explain initial ideas on how PK and PD readouts might be envisioned.*

Part 2. **Experimental plan**

~1 page *broad outline: What is the "killer experiment", or the critical next piece of data that is needed to further validate or develop this target? This is the "ask" – i.e., what can Neuroscience Consortium do to help move this project from point A to point B?*

Key immediate next steps and timeline (~1/2 page) *needed to further validate this target (e.g. understanding if target is in brain and changes in AD; replication of initial data; development of HTS screen; carrying out HTS screen (with the Harvard Institute of Therapeutic Sciences or ICCB-Longwood Screening facility, Neuroscience Consortium partners, etc.), development of biomarker or target engagement assay). State criteria for "success".* If indicated, include a Gannt chart or something similar, to clearly show timeline for reaching key project milestones and decision points.

Part 3. Budget ballpark (ranging from $5K – $115K total costs and very brief justification)

Part 4. Include 4 or 5 Key References to support your target

Part 5. Please include your biosketch

Submission Instructions

Please email completed nomination form as a single pdf to Dr. Brad Hyman (BHYMAN@mgh.harvard.edu) and Dr. Mark Albers (albers.mark@mgh.harvard.edu)

REVIEW PROCESS AND FUNDING PROCESS

The reviews are carried out by a committee of academic and pharma neuroscientists; the review process is "active" in that projects are occasionally recommended for funding with specific caveats, changes, or with resources offered by one of the leadership team to help. It is our goal to have "turn around" as quickly as possible, with funding decisions within ~ 1 month of submission, and fund allocations set up as soon as administratively possible thereafter. A member of the leadership team will be assigned as a liaison to each project, and periodic short reports on progress or presentations to Neuroscience Consortium meetings will be asked of funded participants.

Applications are treated as confidential, in the same way as is customary for grant reviews. All IP remains with the home institution of the investigator, or as is customary for cross-institutional programs. We urge all applicants to have IRB and IACUC permissions underway or in place given the desire to have the work commence as rapidly as possible.