



Catalyze Preclinical Application Version.4 2022.10.19

Applicant Last Name: _____

Project Title: _____

Date of Submission: _____

Section 1: Contact Information

Provide contact information for the principal investigator and the corresponding organizational representative authorized to submit proposals on the PI's behalf, if not the PI.

1. Project Title: _____
2. Is this a resubmission of a proposal for a project for which support was previously sought under Catalyze? Yes No
3. Principal Investigator (Last Name, First Name): _____
4. Organization: _____
5. Title: _____
6. Department (or Discipline): _____
7. Street Address: _____
8. City: _____
9. State: _____
10. Zip code: _____
11. PI email address: _____
12. PI telephone number: _____
13. Name and contact information for corresponding organizational representative, if not the PI:

14. How did you learn about Catalyze? (Select all that apply):

- | | |
|---------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| <input type="checkbox"/> NIH/NHLBI website | <input type="checkbox"/> My technology transfer office |
| <input type="checkbox"/> NHLBI Catalyze website | <input type="checkbox"/> Scientific conference or news article |
| <input type="checkbox"/> NIH Translational Program(s) (e.g., REACH, NCAI, SMARTT, CADET II) | <input type="checkbox"/> NIH Program Officer |
| <input type="checkbox"/> Catalyze event | <input type="checkbox"/> Other (Please specify): _____ |
| <input type="checkbox"/> My institution/department | |



Section 2: PI Demographic Profile

Your responses to the following questions allow the Catalyze Coordinating Center to better understand the demographic profile of investigators interested in Catalyze award programs. Your responses to these questions have no influence on proposal selection and will not be shared with reviewers.

15. Position or title: _____

16. Terminal Degree: _____

17. Year of Terminal Degree (or Expected Completion Year): _____

18. Gender: Do you describe yourself as a man, a woman, or in some other way?

Man Woman Non-binary Prefer not to say

19. Race: What is your race? Please select all that apply

American Indian or Alaska Native White
 Asian Other
 Black or African American Prefer not to say
 Native Hawaiian or Other Pacific Islander

20. Ethnicity: Do you describe yourself as Hispanic or Latino?

Hispanic or Latino (A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race)
 Not Hispanic or Latino
 Prefer not to say

21. Disability Status: Are you disabled?

Disabled Not disabled Prefer not to say

22. Has your professional experience to-date been characterized by any of the following? Select all that apply:

Been granted a copyright, patent, or trademark
 Licensed your technology to another party
 Applied for funding from a translational research, proof-of-concept, or commercialization support program—other than Catalyze
 Received funding from a translational research, proof-of-concept, or commercialization support program—other than Catalyze
 Founded a start-up company



Section 3: Technology Profile

Provide the following information about the project for which Catalyze assistance is sought.

23. Disease area (select all that apply):

- | | |
|-----------------------------------------------|--------------------------------|
| <input type="checkbox"/> Blood | <input type="checkbox"/> Lung |
| <input type="checkbox"/> Cardiovascular/Heart | <input type="checkbox"/> Sleep |

24. Technology type (select one):

- | | |
|----------------------------------------------|--------------------------------------------------------|
| <input type="checkbox"/> Biologic | <input type="checkbox"/> Medical device |
| <input type="checkbox"/> Drug | <input type="checkbox"/> Health information technology |
| <input type="checkbox"/> Combination product | <input type="checkbox"/> Research tool |
| <input type="checkbox"/> In vitro diagnostic | |

25. What type of support is being requested from the Preclinical Catalyze Program?

- Preclinical Studies and/or Chemistry Manufacturing and Controls Work

Please describe (50-word limit): _____

- Preclinical Catalyze Coordinating Center Assistance (regulatory guidance and documentation, gap analysis)

Please describe (50-word limit): _____

26. What is the specific technology or product (50-word limit)? _____

27. What is the indication (50-word limit)? _____

28. If the project is for a therapeutic, what is the target (e.g., Kinase, Receptor, Protein, Mechanism of Action) for the product (50-word limit)?

29. In two or three sentences, what is the technical goal of the project (50-word limit)?

30. Indicate the level of intellectual property protection for this technology (select all that apply):

- No invention disclosure filed with technology transfer office (or equivalent)
- Invention disclosure filed with TTO (or equivalent)
- A patent application has been submitted
- A trademark has been registered
- A copyright has been granted
- None of the above



31. Do you have efficacy data in a relevant animal model by the route of administration to be used in the clinic?

- Yes
 No
 Not applicable
 Other (50-word limit): _____

32. For device and diagnostics, have you confirmed conceptualization and proof of concept via prototyping of all or part of the conceived product with supporting data (i.e., animal or known-sample studies)? and documentation. Has a Design History File been created?

- If Yes, please describe (50-word limit): _____
 No
 Not Applicable
 Other (50-word limit): _____

33. **Project Description.** In 1,000 words or less, please provide an overall description of your project. Include the project purpose or objective, therapeutic relevance to the NHLBI mission, a description of preliminary studies, a concise description of the studies you are proposing, the unmet market need or innovation to potentially change standard of care, and commercialization path.

34. Explain why support for this project is sought from NHLBI and the Catalyze program as opposed to private sector or other sources of support.

Section 4: Prior Technology Development Support

The following questions request information about any funding and translational program support history for the technology to be developed under the proposed project. Please provide information about NIH and non-NIH support. Please also indicate whether the principal investigator and/or the technology have been supported by any NIH translational programs.

35. Was the discovery phase or any earlier translational stages supported by NIH? If yes, provide the NIH award number, project title, total amount, and award period for each award. (Note: the format of the NIH funding number is R33HLI56279.)

NIH Award Number	Project Title	Total Award Amount	Award Period



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36. Were any earlier translational or product development stages supported by any of the following NIH-sponsored translational programs? (select all that apply):

- NCAI (B-BIC, UC CAI, or NCAI-CC)
- REACH 2015 (UofL ExCITE, MN-REACH, or LIBH)
- REACH 2019 (KYNETIC, MBarC, ROI, CO-SPARK, or WE-REACH)
- NIGMS STTR Tech Transfer Hubs (ASCEND, DRIVEN, SHARP Hub, Southeast Xlerator Network)
- tPPG
- POCTRN (CAPCat)
- VITA
- CADET II
- Excellence in Hemoglobinopathies
- Molecular Imaging of the Lung
- Thrombotic and Hemostatic Centers
- Pulmonary Vascular-RV Axis
- Preclinical GTRP
- Preclinical PACT
- Preclinical SMARTT
- Transformative Platforms
- Bioengineering for HLBS
- Large Animal Blood Disease Core
- None of the above
- Other (Please provide name of NIH opportunity or program): _____

37. Was the discovery phase or earlier stages of product development supported by any **non-NIH** funders (e.g., other federal agencies, foundations, state/regional programs)? Please provide the funding history. Include the name of the agency (or entity), project title, total award amount, and award period for each source of support.

Agency	Award Number	Project Title	Total Award Amount	Award Period



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- 38. Over the past 12 months, what fundraising opportunities have you sought that were both successful and unsuccessful (e.g., Angel Investment, Pitch Presentation, Grants, other)?

- 39. Please provide documentation for matching funds (e.g., redacted bank statement, term sheet).

- 40. Has the PI or co-PI ever received support (e.g., funding, coaching) from any translational or entrepreneurship program or service, funded by Federal (NIH or other agencies) or non-Federal sources? If so, please provide a brief description. Note: this question asks information about the PI and co-PI in general, not the technology for which support from Catalyze is sought.

Yes

If Yes, please describe (50-word limit):

No

Section 5: Basis for the Project

Please respond to the following questions. Limit responses to no more than 500 words per question.

- 41. **Background:** Describe the scope and nature of the problem the technology will be designed to address and give a brief description of the solution. Include elements such as the disease burden and the market space in which the product would operate.

- 42. **Unmet Need:** Clearly state the unmet need being addressed by the technology and provide evidence to support the need from multiple stakeholder perspectives (e.g., patient, clinician, payer). How was the unmet need identified/confirmed (e.g., voice of customer, stakeholder interviews)? _____

- 43. **Proposed Project/Solution:** Describe the proposed solution, the setting in which it will be utilized (e.g., ICU, in-patient, out-patient, primary care physician, etc.), and the primary patient population / indication for use. Characterize the expected benefit from the technology and how it will enhance standard of care (current or predicted) and/or replace the current standard of care. What is the evidence to support the expected benefit? Provide a brief synopsis of your preliminary data.

- 44. **Market Size:** Define the total and addressable market size and approximate target price of the technology. Support your market size and descriptions with evidence about current



technologies or approaches to address this indication. Define a specific patient segment of those suffering from the specific targeted disease. What are the market population trends and projections?

45. **Competitive Landscape:** Define the competition mix (e.g., companies, products, processes, procedures, substitutes) for the proposed technology. Focus on how the disease will be treated when the technology/product gets to market. Is the landscape shifting?
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46. **Differentiation:** Explain how the proposed technology will compete in the marketplace relative to the cost of your product compared to commercialized competitive technologies. Provide data to support this. If no preliminary data is available, describe what data would be needed to justify the differentiation. Describe how the proposed product is superior to current options/technologies, including those currently in clinical trials.
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47. **Regulatory Path** (if applicable): Describe the expected regulatory pathway and identify which FDA division will regulate the technology. Describe foreseeable regulatory risks or accelerated programs that could impact the technology development. Comment on the clinical trial considerations and how those might impact the regulatory approach. Please also include information on technologies that are currently in development. If a Target Product Profile has been developed, please upload.
-
48. **Regulatory Consultation** (if applicable): Have you sought regulatory advice from the FDA or consultants for the proposed technology? If there have been any communications with the FDA, please upload.
- Yes
If yes, please describe. _____
- No
49. **Reimbursement** (if applicable): Define similar product(s)/service(s) that is (are) currently being covered for the indication your technology targets and identify relevant CPT/DRG/APC Codes and their reimbursement rates. If no code exists, how will the technology be paid for by the end user? _____
50. **Intellectual Property:** Describe how the intellectual property (IP) is connected to the commercialization plan. If applicable, describe your interactions with your technology transfer office. Please upload any supporting documentation. _____



Section 6: Project Plan

Please respond to the following questions. Limit responses to no more than 500 words per question.

51. Provide a brief outline of your overall project plan including an explanation of the key intermediate milestones and final goals to be achieved at the completion of the project and how each increases the value of the technology. Identify go/no-go decision points and potential pivot points within the plan. Explain how this project plan fits into the overall product development plan.

52. Define the risks (e.g., scientific, technical, personnel, market, and commercialization) you have identified that may impact product development and specify existing and/or proposed mitigation plans to manage these risks.

53. Provide the institutional affiliation, expertise, and role of all individuals on the project team, including your designated project manager.

Name	Institutional Affiliation	Expertise	Role

54. Please describe your staffing strategy (both internal and external team members). For the team proposed in the preceding question, why is this the right talent mix for this project? How does the level of expertise for the team relate to future product development stages?

55. Provide a current CRO/CMO quote for the work as it relates to each milestone and go/no-go decision point and list activities for each that will be completed to bring your technology to an inflection point for commercial investment or a viable “exit” point. Projecting beyond the completion of the proposed project, estimate the key milestones that need to be achieved and the total funding required to bring the product to a commercial exit. Include an estimate of the long-term return on the overall investment. Please upload quotes.

56. Provide the organization, name, and contact information for your accelerator partner. What role will the accelerator partner play in the proposed project? Please upload a letter of support from the accelerator partner.

a. Accelerator: _____



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- b. Contact name, phone, email, web address: _____
- c. Role in the project (50-word limit): _____