**Applicant Last Name:**

**Project Title:**

**Date of Submission:**

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| **Section 1: Contact Information** |
| ***Provide contact information for the principal investigator (PI) of this application. If the PI has designated a representative to submit the proposal on their behalf, please enter the designee's contact information as well.*** |

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):

NIH/NHLBI website

NHLBI Catalyze website

NIH Translational Program(s) (e.g., REACH, NCAI, SMARTT, CADET II)

Catalyze event

My institution/department

My technology transfer office

Scientific conference or news article

NIH Program Officer

Other (Please specify):

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| **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.*** |

1. Position or title:
2. Terminal Degree:
3. Year of Terminal Degree (or Expected Completion Year):
4. Gender: Do you describe yourself as a man, a woman, or in some other way?

Man  Woman  Non-binary  Prefer not to say

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

American Indian or Alaska Native

Asian

Black or African American

Native Hawaiian or Other Pacific Islander

White

Other

Prefer not to say

1. 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

1. Disability Status: Are you disabled?

Disabled  Not disabled  Prefer not to say

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

Been granted a copyright, patent, or trademark

A patent has been issued

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

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| **Section 3: Technology Profile** |
| ***Provide the following information about the project for which Catalyze assistance is sought*.** |

1. Disease area (select all that apply):

Blood

Cardiovascular/Heart

Lung

Sleep

1. Technology type (select the product type that best reflects your product):

Biologic

Drug

Combination product

In vitro diagnostic

Health information technology

Research tool

Gene Therapy

Cell Therapy

Medical device

* Are you in or near design lock?  Yes  No
* Do you have data supporting feasibility?  Yes  No
* Are there potential issues with IP?  Yes  No
* Is this activity requiring a modification to an approved product already on the market?  Yes  No

1. What type of Regulatory support is being requested from the Catalyze Program? Please describe (50-word limit):

Do you need assistance with? Please check all that applies

Preclinical development planning? Yes/No

Developing a regulatory strategy? Yes/No

Reviewing data and performing a gap analysis? Yes/No

Assembling documents for FDA meetings (Q-sub, pre-IDE, pre-IND) Yes/No

Preparing for a meeting with the FDA?  Yes/No

Preparing an IND/IDE/510k application for the FDA? Yes/No

Manufacturing development planning? Yes/No

Quality Management System? Yes/No

Other?  Yes/No

If yes, please describe:

1. What is the specific technology or product (50-word limit)?
2. What is the indication (50-word limit)?
3. 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)?
4. In two or three sentences, what is the technical goal of the project (50-word limit)?
5. Indicate the status of intellectual property protection for this technology

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

A patent has been issued

1. Do you have efficacy data in a relevant animal model by the route of administration to be used in the clinic? Please describe relevant efficacy data in the Project Description below.

Yes  No  Not Applicable  Other (please specify)

1. 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?

Yes  No  Not Applicable  Other (please specify)

1. **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.
2. Explain why support for this project is sought from NHLBI and the Catalyze program as opposed to private sector or other sources of support.

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| **Section 4: Prior Technology Development Support** |
| ***The following questions request information about the 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.*** |

1. 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.)

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| **NIH Award Number** | **Project Title** | **Total Award Amount** | **Award Period** |
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1. 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):

1. 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.

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| **Agency** | **Award Number** | **Project Title** | **Total Award Amount** | **Award Period** |
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1. Please provide documentation of all non-federal funds received in the last 12 months and any non-federal investments contingent on Catalyze preclinical support (e.g., redacted bank statement, term sheet, letter of support if funds are contingent on selection in Catalyze).
2. 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?

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

**Supporting Documentation**: You may provide supporting documents for this section. This is optional. Please limit to only key information (e.g. a figure to support a response).

**Appendix. References Cited**

Please provide a list of citations used (i.e., provide only citations without uploading the articles). If you do not have a citation for an article you would like to include, please upload it (preferably in a PDF format)

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| **Section 5: Basis for the Project** |
| ***Please respond to the following questions. Limit responses to no more than 500 words per question, unless otherwise noted.*** |

1. Background: Describe the scope and nature of the problem the therapeutic, device or diagnostic product will be designed to address and give a brief description of the solution. Ensure detailed technical approach is provided.
   * For therapeutics, include any early prototype animal studies (efficacy, PK, toxicology studies) and chemistry, manufacturing and controls (CMC) activities (non-GMP and GMP).
   * For devices, include any initial design requirements and early-stage animal testing or prototype development, if applicable.

Please attach supporting figures where applicable, and make sure to reference the figure within your text response.

1. **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., regulator, voice of customer, stakeholder interviews)?
2. **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.), the primary patient population, and proposed 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.
3. **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?

1. **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?
2. **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.
3. **Regulatory Path** (if applicable): Describe the expected regulatory pathway and identify which FDA Center(s) 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.
4. **Regulatory Consultation** (if applicable): Have you sought regulatory advice from foreign regulators, the FDA, legal counsel, or consultants for the proposed technology? If there have been any communications with the regulators, please upload.

Yes   
If yes, please describe.

No

1. **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?
2. **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.         
     
   **Supporting Documentation**: You may provide supporting documents for this section. This is optional. Please limit to only key information (e.g. a figure to support a response).  
     
   **Appendix. References Cited**Please provide a list of citations used (i.e., provide only citations without uploading the articles). If you do not have a citation for an article you would like to include, please upload it (preferably in a PDF format).