

NCATS

NCATS small business funding is designed specifically to transform the translational science process so that new treatments and cures for disease can be delivered to patients more quickly. The Center supports the development of clinical technology, instruments, devices and related methodologies that may have broad application to clinical research and better patient care.

Learn more about **NCATS' SBIR/STTR** areas of interest!

## Drug Discovery & Development



- Microphysiological systems (MPS)/Tissue Chips
- Small molecule and biologics analytical characterization
- Accelerated bioengineering approaches to the development and clinical application of biomedical materials, devices, therapeutics and/or diagnostics
- Technologies to determine alternative uses for existing therapeutic interventions
- Protein-protein interaction assays for high-throughput screening of rare-diseases-related projects
- Tools and technologies to enable assaying of compound activity on currently "non-druggable" targets
- Innovative platforms for identification and prioritization of targets for therapeutic intervention with clear clinical impact
- Fluorescence probes to replace antibodies for determination of cellular protein translocation
- Co-crystallization high-throughput screening techniques
- Tools and technologies that increase the predictivity or efficiency of medicinal chemistry, biologic or other intervention optimization
- Use of continuous flow manufacturing technology to improve therapeutic manufacturing and increase efficiencies interventions that target molecular pathways or mechanisms common to multiple diseases
- Development of novel delivery systems of therapeutic interventions (e.g., inhalation/transdermal technologies for biologics)
- Methodologies and technologies to increase efficiencies of manufacturing therapeutics
- Development of novel technologies for enzyme replacement therapies (e.g., new cell culture/expression system) to solve a major bottleneck in rare diseases research
- Develop platforms for non-antibody biologics, cell-based therapies and gene therapy discovery
- Phenotypic assay development, including stem cell technology platforms for human "disease-in-a-dish" applications and the evaluation of toxicity
- Development of high-throughput imaging technologies that focus on making translational research more efficient
- GMP production of exosome/extracellular vesicles
- Generation of producer lines for large scale production of exosomes/extracellular vesicles
- Extracellular RNA-based biomarkers and therapeutics of human diseases



National Center  
for Advancing  
Translational Sciences

## Biomedical, Clinical & Health Research Informatics



- Searchable access to information about research resources, facilities, methods, cells, genetic tests, molecules, biologic reagents, animals, assays, and/or technologies with evidence about their use in research studies
  - Tools and methods for meaningful sharing, re-use and integration of research data
  - Novel platforms, technologies and tools for: (1) enabling clinical and translational research, particularly those with mechanisms for inclusion of patient-reported data and (2) integration of patient data collected from multiple devices and multiple/diverse clinical studies
  - Development of personalized phenotypic profiling (as well as personalized intervention)
- based on patient-centered integration of data from multiple data sources, including social media
- Data visualization for researchers, patients, study participants and decision-makers
  - Gamification of processes that are challenging in translational and clinical research (e.g., creating positive experience that improve recruitment and retention of participants, or learning in a multidisciplinary environment)
  - Collaborative platforms for multidisciplinary teams
  - Predictive models for translation of science
  - Virtual or augmented reality tools for diagnostic uses
  - Novel data-gathering and sharing methods

## Clinical, Dissemination & Implementation Research



- Approaches for populating registries in a scalable and affordable way to serve larger goals (e.g., Natural History Study)
  - Tools and technologies that increase the efficiency of human subjects research, including development of technologies that facilitate rapid diagnosis and/or clinical trial recruitment and subject tracking, institutional review board evaluation, and/or regulatory processes
  - Increased efficiency of clinical research conduct, including but not limited to regulatory decision support, patient eligibility analysis and recruitment tracking
  - Educational tools for clinical and translational science
- Computational or Web-based health research methods, including:
    - Platforms for generally applicable and scalable multi-disease registries and natural history studies
    - Clinical trial designs and analyses (e.g., for pragmatic clinical trials)
  - Approaches, tools, platforms and environments for synthesizing the totality of evidence
  - Dissemination and implementation research
  - Sustainable solutions for effective tools and environments in translational research
  - Tools and environments that enable an easy interrogation of publically available data
  - Development of predictive models for translational science

## Specialized Topics



- Development of highly innovative tools and technology for analysis of single cells
- Platform delivery technologies for nucleic acid therapeutics
- Tools for cell line identification
- Technology transfer
- Heart, lung, blood, and sleep technologies

For More Information  
[ncats.nih.gov/smallbusiness](https://ncats.nih.gov/smallbusiness)



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