

NHLBI Resources To Advance Translational Research



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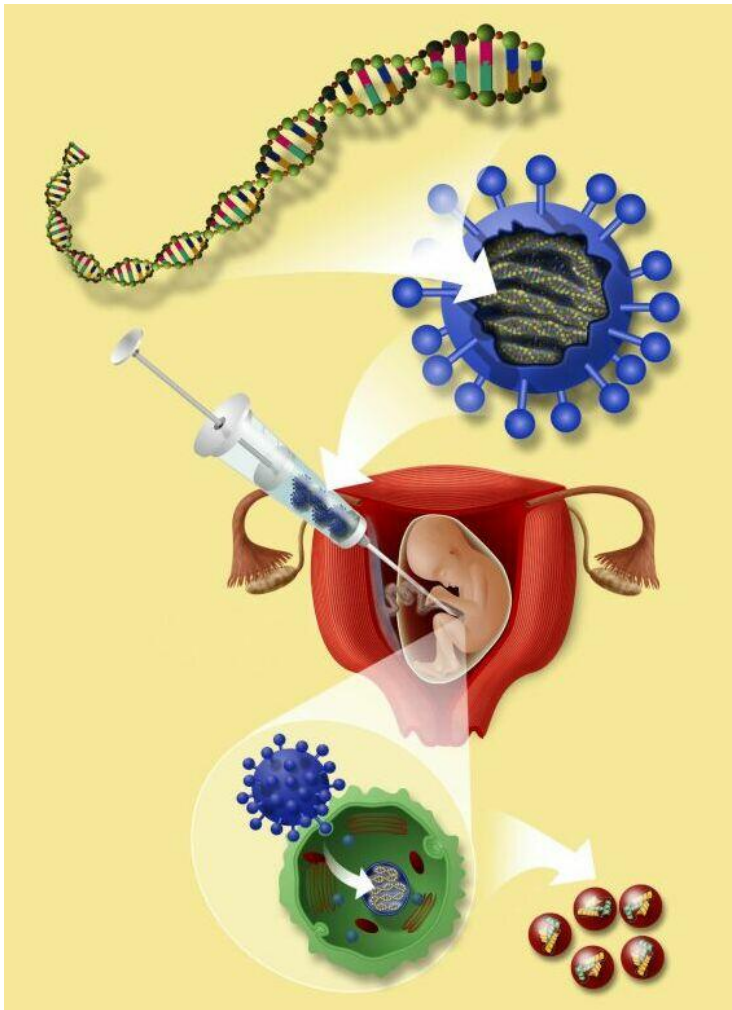
NHLBI Mid-Atlantic Innovation Conference
October 15, 2012



NHLBI Resources

- Gene Therapy Resource Program (GTRP) www.gtrp.org/
- Science Moving TowArds Research Translation and Therapy (SMARTT) www.nhlbismartt.org/

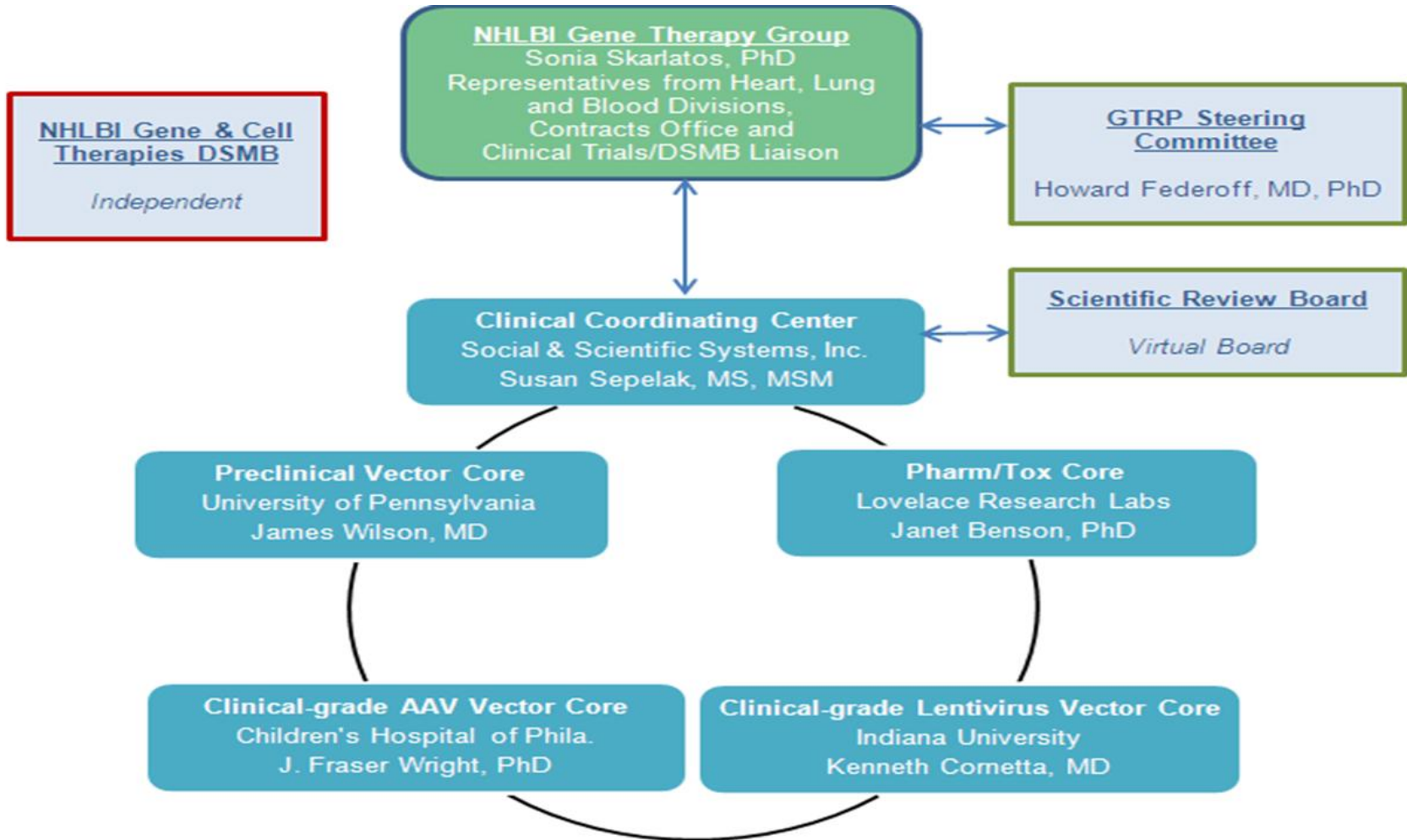
NHLBI Gene Therapy Resource Program



- Facilitate the translation of basic research in gene therapy to clinical application in heart, lung and blood diseases
- Provide the resources needed for gene therapy trials
- Provide support for gene therapy clinical protocols and assistance on regulatory issues

Gene Therapy image from Nikolaus Fiebiger Center of Molecular Medicine, University Erlangen-Nuernberg

Program Infrastructure



Application Process (web-based):

Become a GTRP Investigator

Complete your
online
registration at
www.gtrp.org

The CCC will
contact you with
any questions.

The NHLBI GTG
will review
within one week.

RSA Initiation, Development and Submission

Initiate RSA &
save as prelim

Develop RSA w/
Core Lab & CCC

Submit RSA as
“Final”

Visit our website: www.gtrp.org

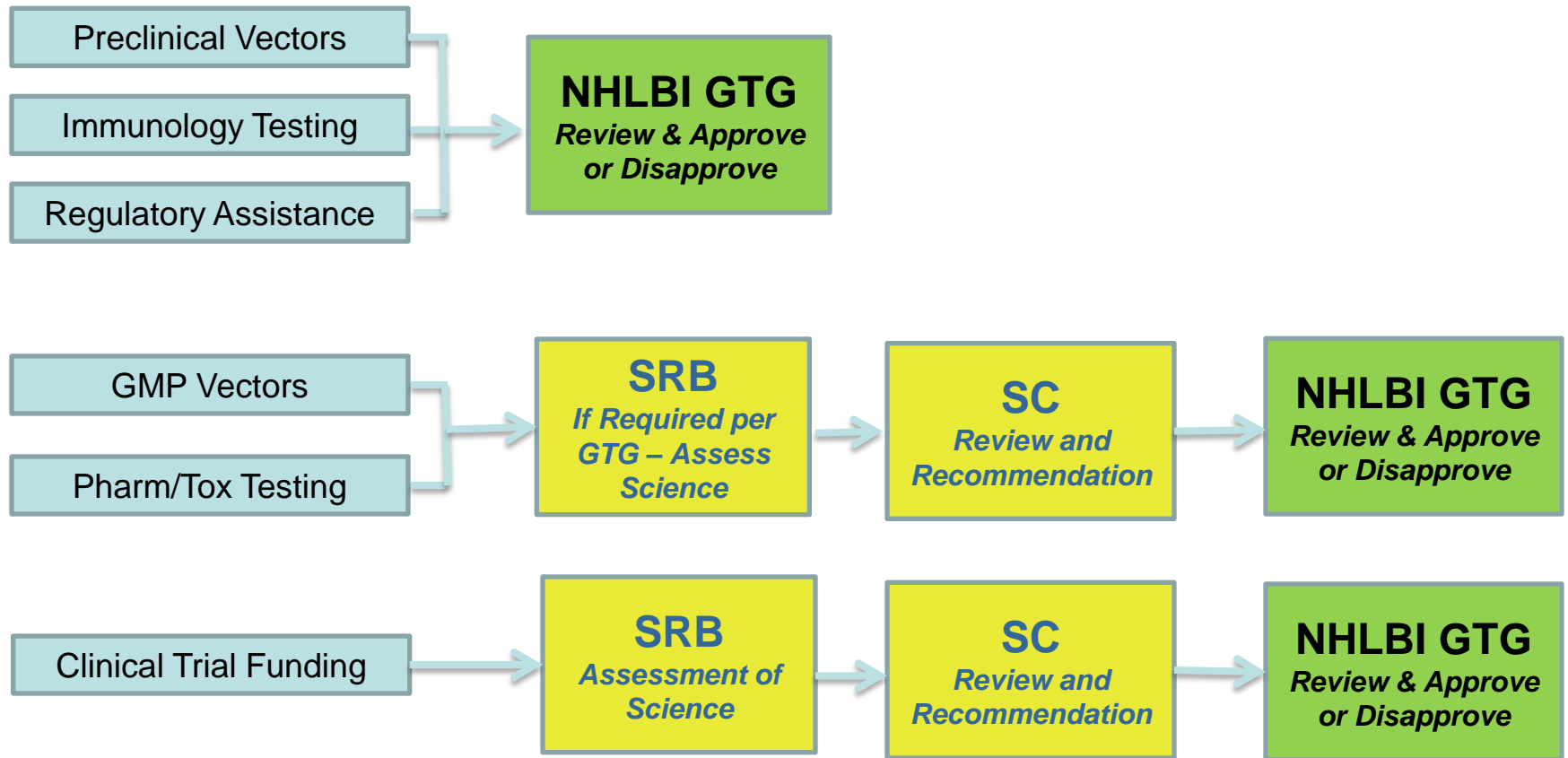


Gene Therapy Resource Program

National Heart Lung and Blood Institute



RSA Review by GTRP

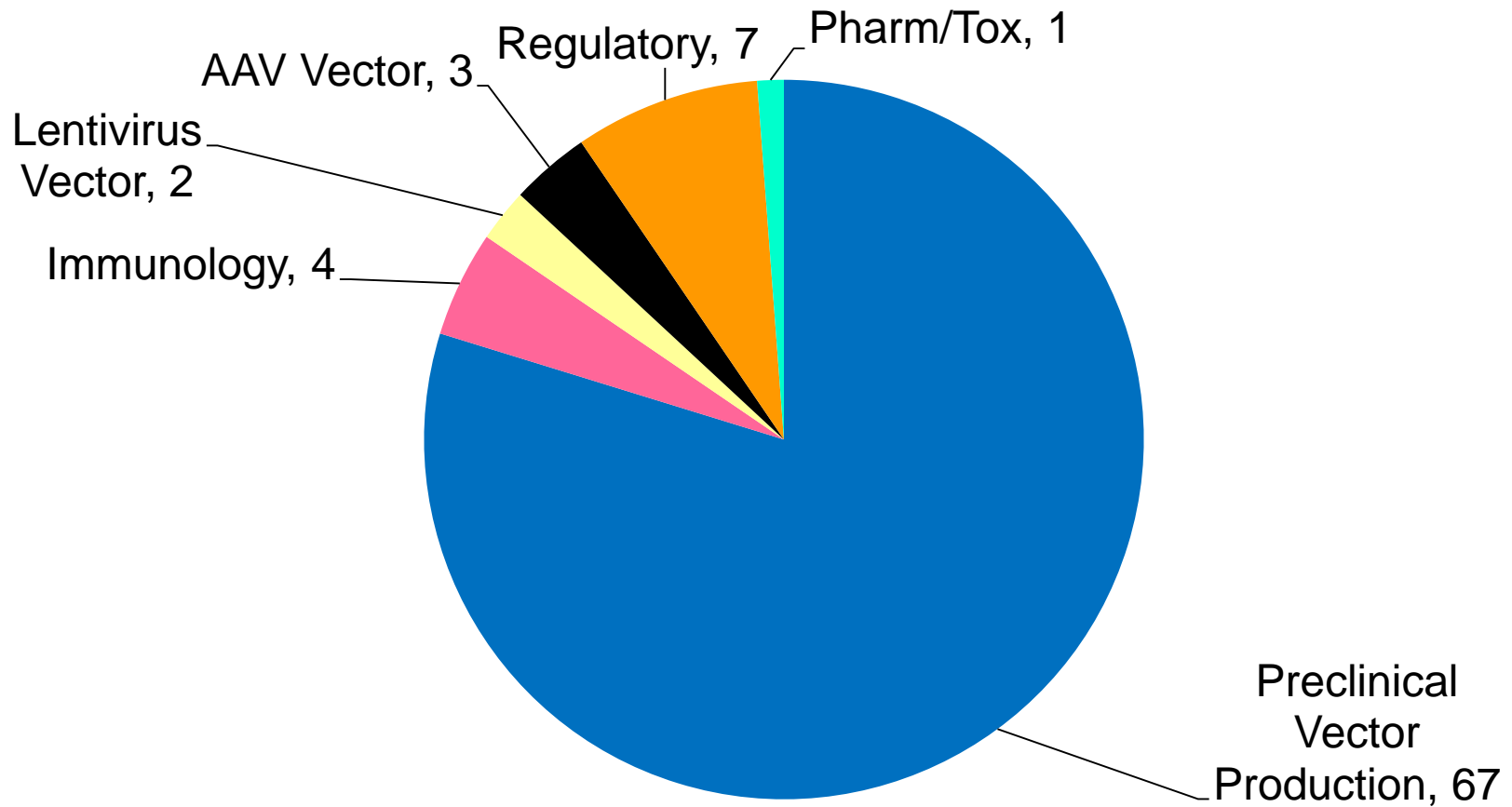


Gene Therapy Resource Program

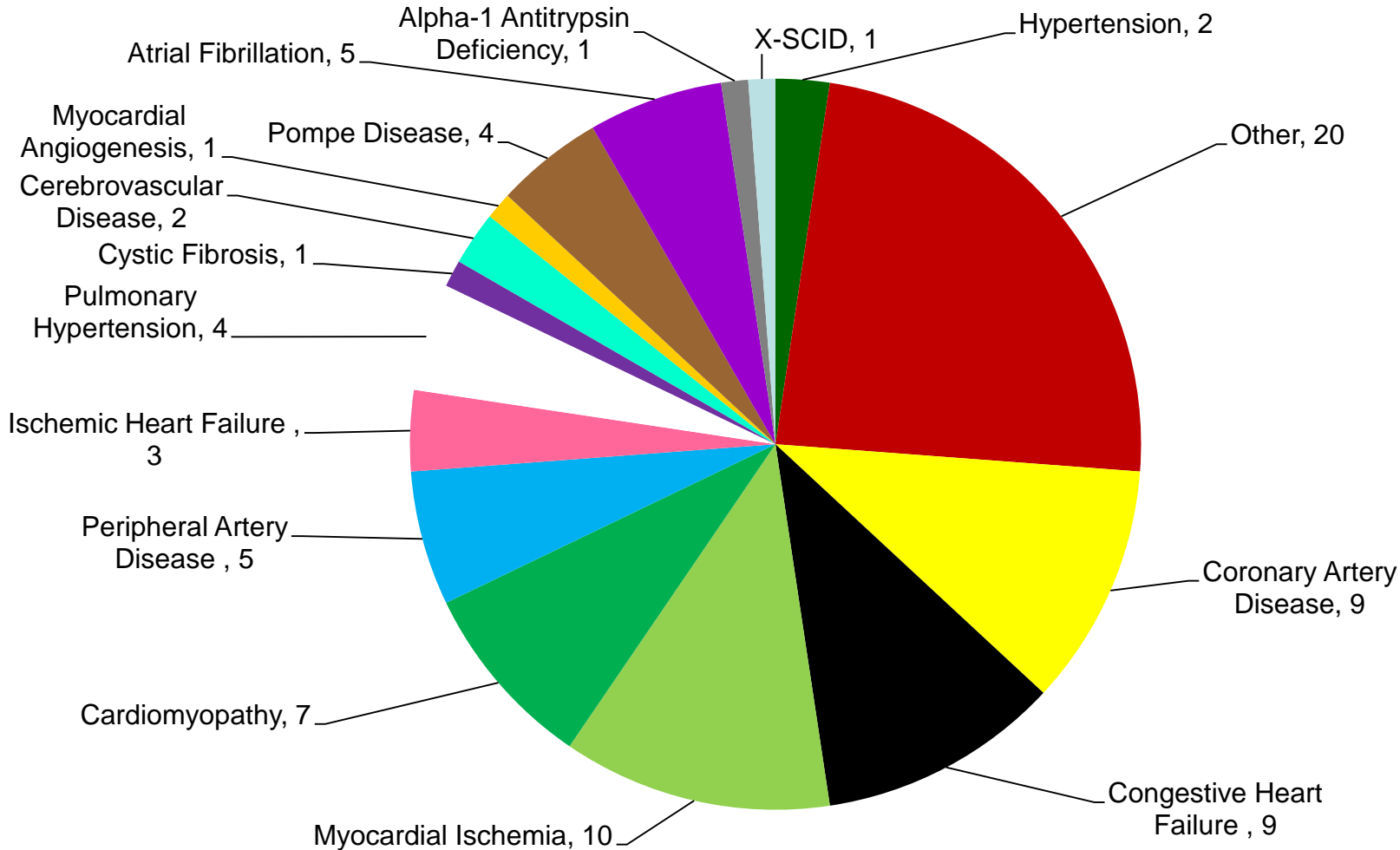
National Heart Lung and Blood Institute



RSAs Completed by Service Type N = 84



RSAs Completed by Targeted Disease N= 84



Clinical Trials Supported Through GTRP

CHF: Ad5.hAC6

- **Multi-site Phase I/II trial**
- **Safety and potential efficacy – intracoronary delivery**
- **Target n=72; Treated to date=12**

Pompe Disease: AAV Acid Alpha-Glucosidase

- **Single-site Phase I/II trial**
- **Safety and potential efficacy – bilateral diaphragm delivery**
- **Inspiratory Muscle Strength Training (IMST)**
- **Target n=6; Treated to date=3**

Wiskott-Aldrich Syndrome: Lentiviral vector

- **Single-(U.S.)site Pilot and feasibility study**
- **Safety of lentivirus vector encoding WAS cDNA – transduced T-cell delivery**
- **Target n=5; Treated to date=0**

Access to Program Resources

Step 1: Investigator Registration and Approval

Step 2: Submit RSA

GTRP HOME | CONTACT US



Gene Therapy Resource Program

National Heart, Lung, and Blood Institute



Investigator
Registration

Request for Service
Application (RSA)

Core Laboratories

Scientific
Review Board

Steering Committee

NHLBI Gene
Therapy Group

HIGHLIGHTS

> [Instructions for Submitting an RSA](#)

> [RSA Review Process](#)

INFORMATION CENTER

> [NHLBI Home](#)

> [FAQ's](#)

> [Regulatory Resources](#)

» [Regulatory Guidelines](#)

» [Fundamental Elements in Gene Vector Development](#)

WHAT IS THE NHLBI GENE THERAPY RESOURCE PROGRAM?

The NHLBI Gene Therapy Resource Program (GTRP) facilitates the translation of gene therapy research into clinical interventions. The GTRP provides resources for gene therapy research primarily in heart, lung, and blood diseases as reflected in the NHLBI Mission (<http://www.nhlbi.nih.gov/about/org/mission.htm>). Requests for resources for gene therapy research that are consistent with the missions of other NIH Institutes may also be considered by the Program.

Resources are provided in the form of preclinical and clinical-grade vector production, pharmacology/toxicology testing, immunology testing, clinical trials funding assistance, and [regulatory support](#) at no cost to the investigator. Investigators must first receive approval of their Registration with the Program in order to request resources.

The GTRP, directed by the NHLBI Gene Therapy Group, consists of three vector production cores, a pharmacology/toxicology testing core, and a clinical coordinating center. A Scientific Review Board and Steering Committee review Request for Service Applications and make recommendations to the NHLBI Gene Therapy Group regarding the applications' scientific merit, feasibility, and compatibility with the Program's mission.

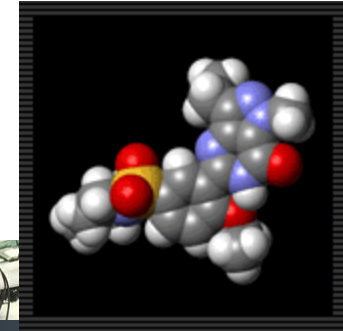


National Heart
Lung and Blood Institute

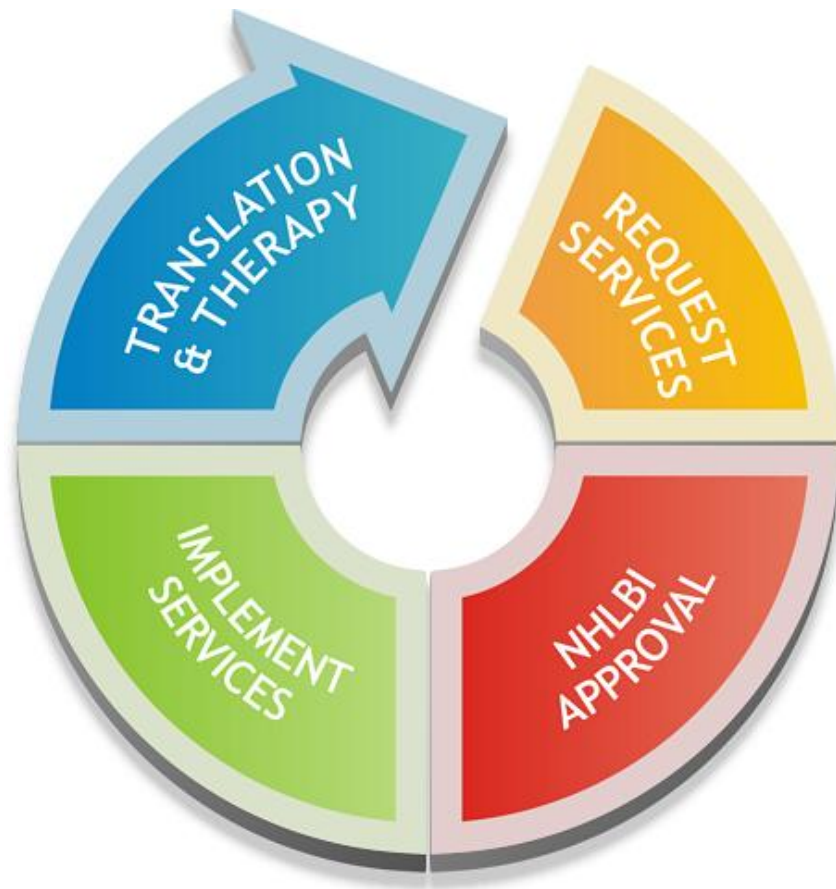
SMARTT Program

Goal: To remove common barriers between laboratory discoveries and clinical trials of new molecular entities

Agents: Small molecules and biological therapeutic agents (including vaccines)

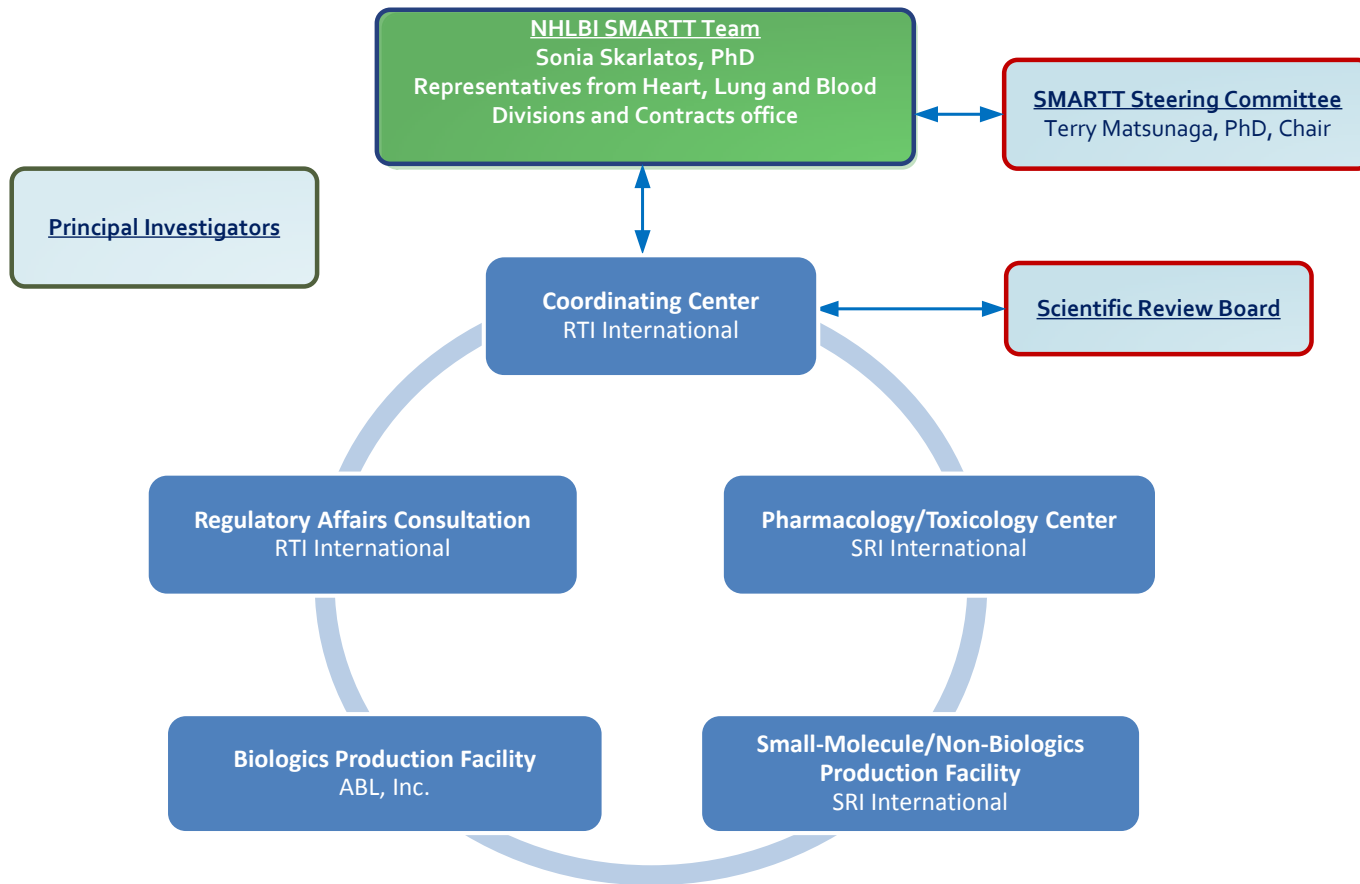


NHLBI Science Moving towards Research Translation and Therapy (SMARTT)



- Supports the translation of novel discoveries into successful new therapies for heart, lung and blood diseases
- Provide rapid preclinical development services to investigators
- Provide tailored pharmacology and toxicology testing, manufacturing services, and regulatory support

Program Infrastructure



Application Process (web-based):

Become a SMARTT Investigator



RSA Submission, Review and Approval



Visit our website: www.nhlbismartt.org

SMARTT

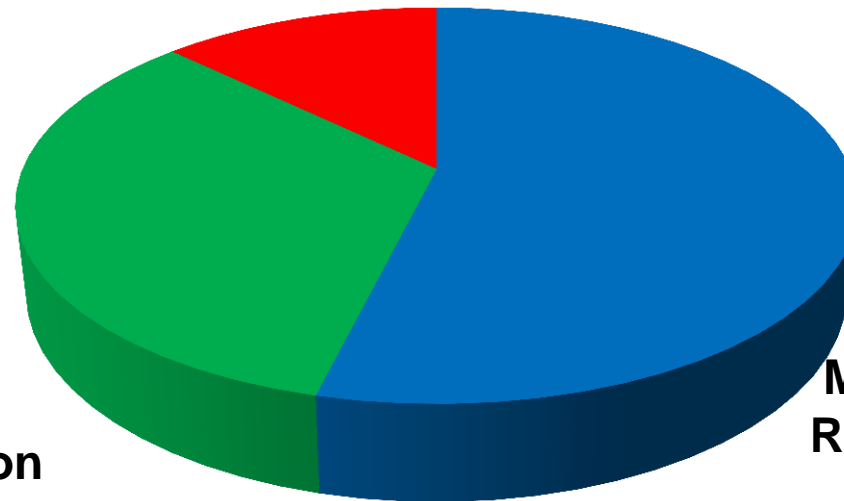


SMARTT Requests as of 09/2012

BLOOD (13%)
Sickle cell disease
Stem cell transplant

LUNG (33%)

COPD
Asthma
Cystic fibrosis
Acute lung injury
Pleural loculation
Pulmonary fibrosis
Pulmonary hypertension
Pulmonary inflammation



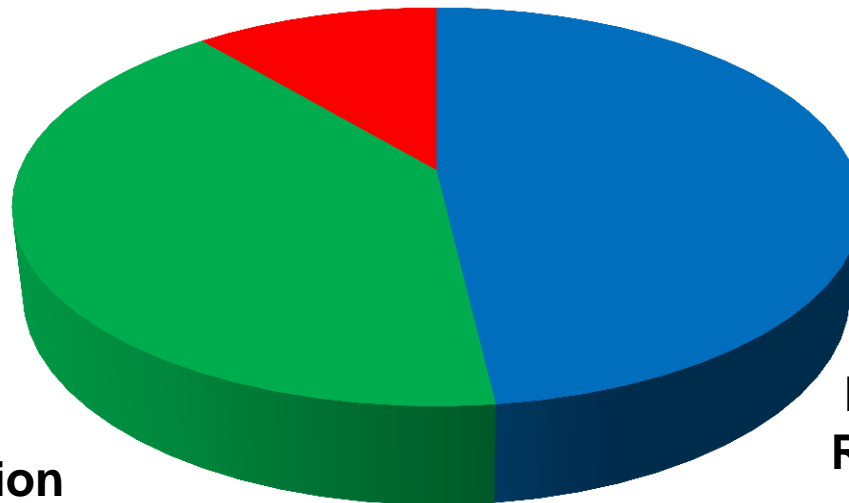
HEART (54%)
Thrombosis
Hypertension
Ischemic injury
Atrial fibrillation
Atherosclerosis
Myocardial infarction
Reverse cardiac aging
Long QT syndrome

SMARTT Projects Submitted to Date

BLOOD (11%)
Sickle cell disease
Stem cell transplant

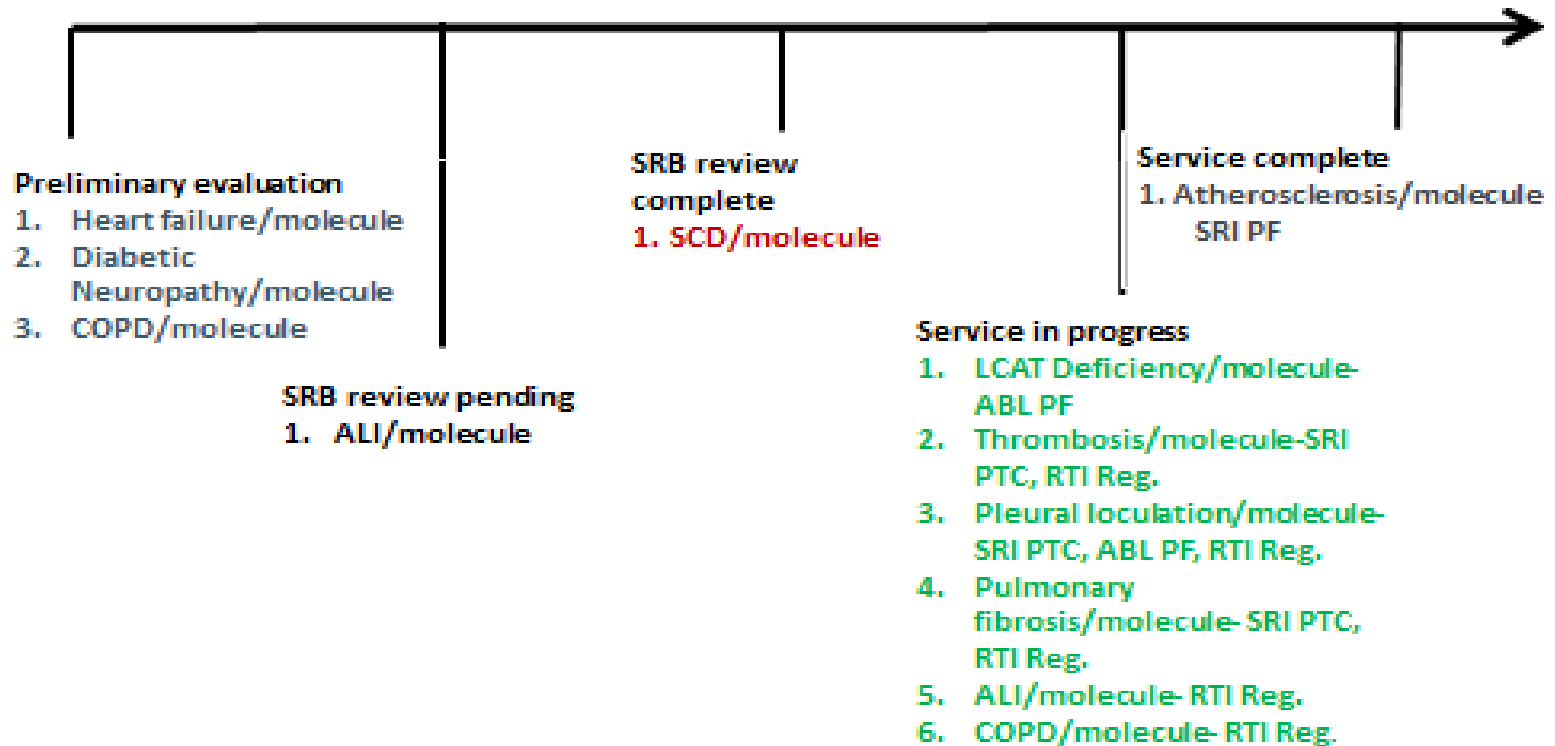
LUNG (41%)

COPD
Asthma
Cystic fibrosis
Acute lung injury
Pleural loculation
Pulmonary fibrosis
Pulmonary hypertension
Pulmonary inflammation



HEART (48%)
Thrombosis
Hypertension
Ischemic injury
Atrial fibrillation
Atherosclerosis
Myocardial infarction
Reverse cardiac aging

RSA Status Overview



Thank You

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