

## CENTERS FOR THERAPEUTIC INNOVATION (CTI)

*Requests proposals for novel therapeutic targets with application across Pfizer's core therapeutic areas*

### ONCOLOGY



Tumor Targeted

Immuno-Oncology

Cancer Vaccines

### INTERNAL MEDICINE



Obesity/Cachexia

Heart Failure

Diabetic/Chronic Kidney Disease

NASH/T2D

### INFLAMMATION & IMMUNOLOGY



Rheumatology

Gastroenterology

Medical Derm

### RARE DISEASE



Cardiology

Neuro-musc.

Metabolic

Hematology

Collaboration with CTI provides access to Pfizer R&D strengths, resources, and capabilities to help guide and advance novel scientific approaches.



- Each investigator is paired with a scientific champion at Pfizer



- Funding is provided for project-specific research in the academic lab



- Complementary biology and drug discovery are performed at Pfizer

### IN-SCOPE:

- Novel biological targets supported by:
  - in-vivo and in-vitro models
  - enabling genetics & mechanistic insights
  - translational biochemical or cellular assay and biomarkers
- Modality agnostic (exception of cell- based therapies)

### OUT-OF-SCOPE:

- Drug repurposing, standalone biomarker assays/platforms, medical devices, cell- based therapies

### SUBMISSION PROCESS:

- Develop a 2-3 page non-confidential document outlining the scientific background and research synopsis
- Pre-proposals should be reviewed by one of Pfizer's Emerging Science Leads to determine suitability prior to submission, formal submission should be routed through business/tech-transfer offices.

## CENTERS FOR THERAPEUTIC INNOVATION (CTI)

Requests proposals for novel therapeutic targets in the following areas with applications across Pfizer's core therapeutic areas

### Inflammation & Immunology:

- Novel approaches to target interactions between pathogenic fibroblast and macrophage subsets or to modulate cellular senescence in inflammation / fibrosis (e.g. senolytic & senomorphic approaches)
- Novel targets and mechanisms to induce immune tolerance in autoimmunity (e.g. modulation of Mregs, Bregs, and tolDCs)
- Novel concepts to modulate pathogenic immune cells in autoimmune disease (e.g. targeting of B cells, inflammatory monocytes, neutrophils, mast cells or other granulocytes)
- Restoration of epithelial barrier function and promotion of its repair in IBD by directly targeting the epithelial barrier.

*Out-of-scope: Targets in replicative senescence e.g. telomerase; direct induction/modulation of regulatory T cells (Tregs); modulation of immune cell functions that indirectly affect epithelial barrier function*

### Internal Medicine:

- Novel mechanisms and/or human genetic approaches to target heart failure with preserved ejection fraction (HFpEF). Including, but not limited to, novel targets and pathways regulating skeletal muscle vascular growth and function.
- Mechanisms addressing cachexia associated with chronic disease and aging
  - Pathways targeting muscle growth and function including metabolism and mitochondrial energetics
  - Inflammatory pathways underlying cachexia of chronic disease
- Gut-brain signaling in regulation of energy balance (obesity/cachexia) - Targeting vagal sensory pathways in the gut or nodose ganglion to regulate feeding.
- Novel approaches for the treatment of diabetic nephropathy or chronic kidney disease, founded on evidence from human pathophysiology and/or genetics

*Out-of-scope: nutraceutical approaches to muscle growth and function; approaches that cause browning of white fat/thermogenesis*

As a first step, please contact Martha Jurczak at [jurczakmo@upmc.edu](mailto:jurczakmo@upmc.edu) for Department of Medicine submissions, and Amy Phillips at [azb5@pitt.edu](mailto:azb5@pitt.edu) for all other submissions, to indicate interest by May 3.

### Oncology:

- Induction or targeting of senescent-like arrest of tumor cells to overcome drug resistance and/or improve immune response to solid tumors
- Enhancing immune-mediated tumor cell killing: activation of repeat elements, antigen presentation, prevention or reversal of immune-senescence & -exhaustion mechanisms
- Splicing & cell stress: R-loops and restoration of RNA processing – selective targeting of splicing via RNA binding proteins and RNA helicases
- Targets driving the DNA damage response and replicative stress, including nucleases, deubiquitinases, and helicases; synthetic lethal relationships outside of BRCA1/2.

*Out-of-scope: cytotoxic antibody-drug conjugates, rare tumor indications*

### Rare Disease:

Approaches for the cause/treatment of **Repeat Expansion Diseases**

- Targets directly impacting the pathogenic repeats at the level of DNA/RNA
- Molecular mechanisms that modulate or regulate the pathogenic repeat
- Assays for DNA mismatch repair and biomarkers of somatic repeat instability

Novel concepts for the cause (mutant or modifier genes, causal signaling pathways) or treatment (reverse existing pathology) of **Rare Cardiac Diseases**

- Rare inherited, Dilated, & Arrhythmogenic Hypertrophic Cardiomyopathy
- Amyloid light-chain amyloidosis (AL-Amyloidosis)
- Rare heart rhythm disorders

Opportunities addressing the pathogenesis or progression of **Rare Renal Disorders**; Focal Segmental Glomerulosclerosis, IgA Nephropathy, Alport Syndrome, or Autosomal Dominant Polycystic Kidney Disease

- Novel targets/pathways to improve glomerular filtration
- Mechanisms to reduce IgA deposition or slow renal decline post deposition
- Mechanisms to reduce cyst size, growth, formation and downstream effects on renal function

*Out-of-scope: ultra-rare diseases, ex vivo gene therapy, broad hemodynamic modifiers and fibrotic mechanisms*