CENTERS FOR THERAPEUTIC INNOVATION (CTI)

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

Northwestern Internal Deadline: June 21th, 2021

ONCOLOGY	INTERNAL MEDICINE	INFLAMMATION & IMMUNOLOGY	RARE DISEASE
			
Tumor Targeted	Obesity/Cachexia	Rheumatology	Cardiology
Immuno-Oncology	Heart Failure	Gastroenterology	Neuro-musc.
Cancer Vaccines	Diabetic/Chronic Kidney Disease	Medical Derm	Metabolic
	NASH/T2D		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
- – Complimentary 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 using provided template 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 Northwestern's Innovation and New Ventures Office (INVO). Please contact newcures@northwestern.edu for more information.

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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

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

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

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 for 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

For more information about process and areas of interest go to pfizercti.com