

Our Inflammatory Disease Research: Inspired by Patients. Powered by Pioneering Science.

Our scientists are building a **deep understanding of molecular pathways** associated with multiple immune-mediated and inflammatory diseases.

Early **translational and biomarker science** is revealing **unique disease insights** to inform and accelerate the delivery of new therapies.



We are focusing our research on inflammatory and fibrotic diseases of the skin, gut and lung.

We're collaborating with the patient community, leading scientific experts and institutions, start-ups and healthcare authorities to generate patient and disease insights and bring treatment breakthroughs to patients in the shortest time

GUT

- Crohn's Disease and Ulcerative Colitis are two serious, chronic and debilitating diseases of the digestive system which lead to severe morbidity, a higher incidence of surgery, and reduced quality of life.
- Around 5 million people worldwide are affected.¹
- Genetic factors, immune system dysfunction and triggers such as bacteria, diet and smoking may all play a role in the development of these diseases.

Our collaboration with Washington University School of Medicine is unlocking the discovery of novel targets in fibrostenotic Crohn's disease.

Our partnership with the Crohn's and Colitis Foundation is helping us develop unique insights into biomarkers linked to disease and patient outcomes.

LUNG

- Interstitial lung diseases are rare, life-limiting conditions with significant unmet medical need.
- Idiopathic Pulmonary Fibrosis affects approximately 3 million people worldwide.^{2,3}
- Systemic sclerosis affects 2 million people worldwide, mostly women,⁴ and up to 90% will develop some scarring in the lung.⁵

Our partnership with the Harvard Fibrosis Network is revealing details of the natural history of IPF disease and identifying novel lung repair targets.

SKIN

- Psoriatic diseases such as generalized pustular psoriasis (GPP) are chronic, non-communicable, disfiguring and disabling conditions for which there is no cure.⁶
- GPP is a severe form of psoriasis that presents as pus-filled blisters which can cover the entire body, with associated systemic fever and pain.
- Scleroderma is a rare immune-mediated disorder with significant morbidity and mortality.
- Scleroderma specifically refers to the hardening of the skin (derma), but the disease can also affect other tissues and organs in the body (systemic sclerosis).

UTHealth (The University of Texas Health Science Center at Houston) is helping us unravel new targets in scleroderma-derived skin fibroblasts.

Inspired by patients, our pioneering research is revealing scientific breakthroughs that **TARGET, REPAIR** and **PREVENT** many inflammatory diseases.

1 Immune system dysfunction

These triggers can initiate a cascade of events that **OVER ACTIVATE** the immune system

3 key factors

contribute to immune system dysfunction

- Genes
- Environmental factors
- Microbiome triggers

2 Barrier Damage

This causes **DISEASE FLARES** or exacerbations which can damage the body's natural barriers which act as a protective shield from immune system triggers

OUR RESEARCH

We're pursuing mechanisms which **TARGET** this overreaction with the aim of preventing or reducing flares and halting disease progression.

Further insults from triggers can affect the integrity of the barrier and **DAMAGE THE EPITHELIAL CELLS** that line the outside layer (skin) and inside cavities (lung and intestines) of the body causing damage to the barrier

OUR RESEARCH

We're investigating mechanisms that stimulate recovery and healing to **REPAIR** the barrier, improve symptoms and transform patients' quality of life.

3 Epithelial damage

If left unchecked, repeated exacerbations lead to tissue damage and activate the fibrotic process (scarring)

OUR RESEARCH

We're investigating mechanisms that **PREVENT** inflammation and fibrosis to stop or even reverse organ damage.

4 Organ damage

Progressive development of fibrotic tissue leads to fibrotic gut, lung and skin disease states.

This is associated with loss of normal function, a potential need for surgery, reduced quality of life and poor patient outcomes.

Inspired by patients, our **TARGET, REPAIR, PREVENT** strategy applies pioneering science to accelerate the delivery of potentially transformative therapies to meet patients' unmet medical needs.

REFERENCES

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