Elastrin Therapeutics' New Approach May Help Save COVID-19 Patients Dying from 'Inflammatory Storm'

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Elastrin Therapeutics, a biotech startup, announced it has developed the world's first humanized antibody against "Inflammatory Storm" that sickens or kills COVID-19 patients.

A previously untested approach to preventing the most severe outcomes of lung diseases, including COVID-19, has been developed by Elastrin Therapeutics based on targeting damaged elastic fiber that lead to impairment of lung function. Herefore, the company has developed the world's first humanized antibody that specifically only targets exposed elastin fiber, and is currently pursuing investment to advance further development of a therapy.

The many drugs being tested against the 'Inflammatory Storm' that sickens or kills most COVID-19 patients do not address a pre-existing condition that opens patients to this storm and worsens the damage. The condition is the destruction of the elastic fiber that is essential for air sacs and blood vessels to deliver oxygen and blood.

Many patients who die from COVID-19 have damaged fiber due to a 'vicious cycle' that compromises basic health, then turns the body's immune system against itself to accelerate the 'Inflammatory Storm'. Scientists working with Elastrin Therapeutics demonstrated pre-clinical Proof of Concept of interrupting that cycle, then repairing damage to the fiber in animals.

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The process uses a proprietary antibody-guided, drug-loaded nanoparticle that moderates the inflammatory response to prevent uncontrolled inflammation and for the first time actually repairs the damaged fiber.

A complementary therapy using a well-characterized metal complex agent has also been shown by Elastrin to reverse hardening of the arteries, which degrades the ability of blood vessels to keep the body healthy – offering a second opportunity to reverse another vulnerability that opens patients to infections such as COVID-19.

Collaborating with investors and agencies to fund fast-track safety testing and accelerate regulatory approvals is the biggest challenge for the innovative start-up. The Elastrin platform being offered to investors is DESTiNED (Degraded Elastin Specific Targeting Nanoparticle-based, efficacy-optimized Drug-delivery).

For this, Elastrin's scientists developed the first humanized antibody specific for damaged elastin. Elastrin is testing it in animal models and exploring partnerships with companies developing therapies for pulmonary diseases.

"These types of epidemics will be the new normal unless we develop a sustained solution that deals with the underlying factors", said Elastrin Chief Scientific Officer Dr. Naren Vyavahare, who adds, "We are proud that Elastrin might make a unique contribution to addressing these diseases. It is important not to give false hope.

Still, we do have proof of the concept of being able to affect the inflammatory cascade, and there is extensive clinical evidence that the active ingredients already have beneficial effects. Our next steps are underway as we are approaching emergency agencies and laboratories experienced with animal models and handling of the virus."

Read the original article on Elastrin Therapeutics.