

**MICHAEL HOLTZMAN, MD**

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“Our Harrington team has been quite helpful—in particular, their toxicology expertise has helped speed development of our lead drug.”

A PROMISING APPROACH TO TREATING

DANGEROUS AFTER-EFFECTS OF COVID

FOCUS: A drug to address infections associated with respiratory diseases.

For years Dr. Holtzman and his team have been striving to deliver a therapeutic for respiratory airway diseases such as rhinosinusitis, asthma, and COPD (chronic obstructive pulmonary disease). When the pandemic hit, they were able to pivot this work toward a potentially effective COVID-19 therapy.

For COVID patients, what occurs after the initial injury phase remains a major obstacle to better outcomes. In the weeks after a virus is cleared from the body, destructive processes may be set in motion during an infection crest. This explains why a high percentage of the many millions who have had a COVID infection are experiencing long-term disease, especially with respiratory symptoms. Some have organ damage that can cause chronic illness or even death.

Dr. Holtzman has uncovered clues to understanding how such lung damage develops. “We found that infection triggers the expression of a protein called IL-33, which in turn results in stem cells overgrowing their normal boundaries, and an increase in basal cells (found in the outermost layer of skin, they produce new skin cells), all of which increases mucus production and causes inflammation in the lung,” he says.

Dr. Holtzman’s team has developed a promising compound designed to target steps on the pathway between IL-33 and basal cell activation. If successful, it would form the basis of broadly effective therapies to prevent or treat lung disease caused by a variety of viruses, including COVID.

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