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“Conversations with our Harrington team yield important feedback and insights, and they help us stay on track.”



A BREATH OF FRESH AIR IN THE **FIGHT AGAINST ARDS**

FOCUS: Novel therapy for acute respiratory distress.

Acute respiratory distress syndrome (ARDS) is a lung disease where protein-rich fluids leak into the lung airways, breathing becomes difficult and oxygen cannot get into the body. ARDS is the leading cause of death among patients with severe cases of COVID-19. With no effective therapies for ARDS, there is an urgent need for novel strategies able to improve the clinical outcomes of this disease.

At the interface between the bloodstream and lung tissue, pulmonary endothelial cells play key roles in orchestrating the gas exchange, and in mediating processes

involved in lung homeostasis, many of which are disrupted in ARDS.

After years of research related to the microtubule cytoskeleton (a network of hollow cylinder-like structures in the cytoplasm of living cells), the work of Dr. Komarova and her team resulted in a novel drug candidate, VT-109, which binds to microtubules that regulate the endothelial barrier.

“Our compound seems to tighten the endothelial barrier that separates circulating blood from lung tissue, thus restoring physiological function of the pulmonary

endothelium to support gas exchange in the lung,” Dr. Komarova says. “Our hope is that this discovery will lead to an effective intravenous treatment for COVID-19 respiratory illness.”

Dr. Komarova’s Harrington Discovery Institute advisory team provided feedback on pre-clinical studies, identified potential gaps in the studies, and will help procure interest from pharmaceutical companies. In addition, pre-clinical data shows that VT-109 has the potential to be protective against other causes of ARDS including bacterial pneumonia, endotoxemia, and mechanical ventilation.

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