

Vasoactive Intestinal Peptide treats Respiratory Failure in COVID-19 by rescuing the Alveolar Type II cell

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Abstract

Aviptadil, a synthetic form of human Vasoactive Intestinal Peptide (VIP) has been granted FDA Fast Track Designation for the treatment of Critical COVID-19 with respiratory failure and is now in phase 2/3 clinical trials, with initial determinations of safety and non-futility. Rapid recovery from Critical COVID-19 with respiratory failure as been seen in multiple patients treated with open label VIP under FDA Emergency Use IND. VIP binds uniquely to receptors on Alveolar Type II cells in the lung, the same cells that bind the SARS-CoV-2 virus via their ACE2 receptors. VIP protects those cells and the surrounding pulmonary epithelium by blocking cytokines, preventing apoptosis, and upregulating the production of surfactant, the loss of which is increasingly implicated in COVID-19 respiratory failure. Because of its lack of toxicity and low cost of manufacture compared to proprietary biologics, VIP may be uniquely attractive to those focused on global countermeasures against COVID-19.

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Javitt VIP Perspective July 22 2020.pdf available at <https://authorea.com/users/321659/articles/472151-vasoactive-intestinal-peptide-treats-respiratory-failure-in-covid-19-by-rescuing-the-alveolar-type-ii-cell>