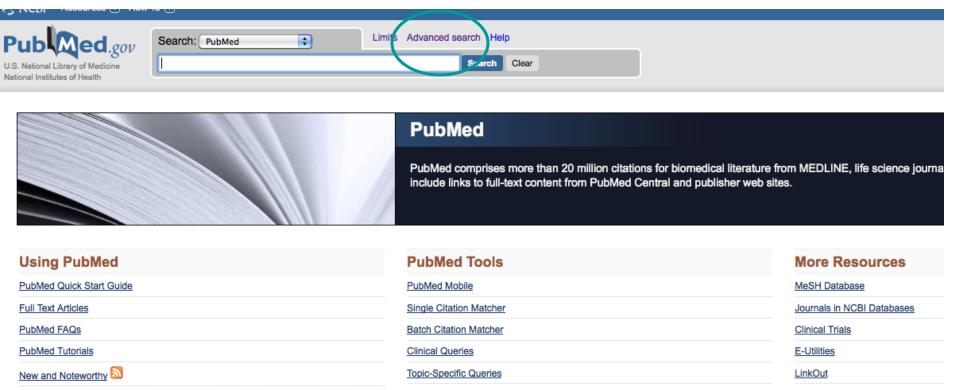
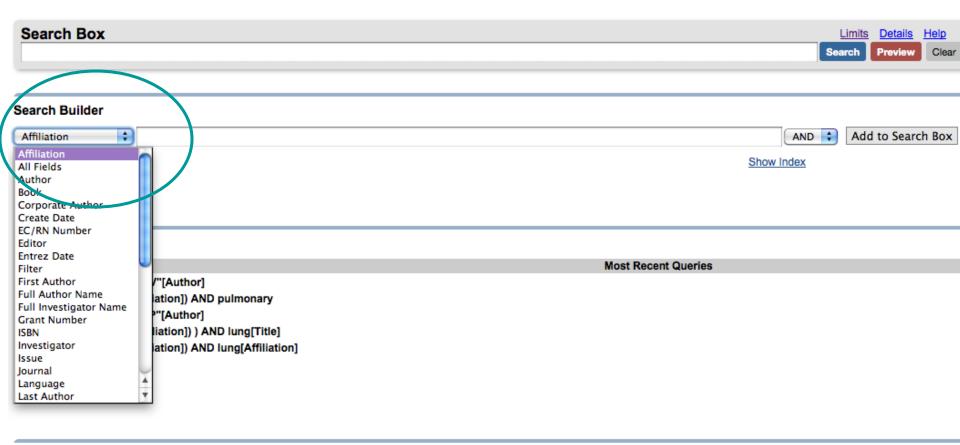
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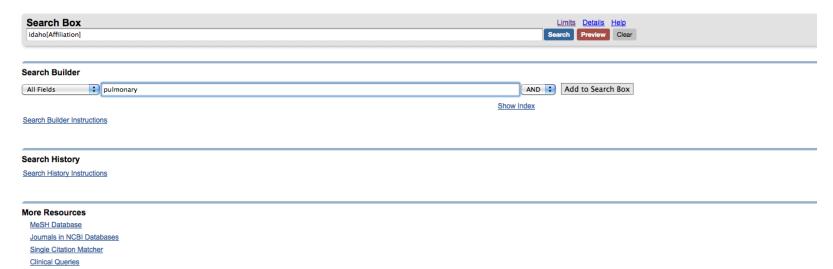
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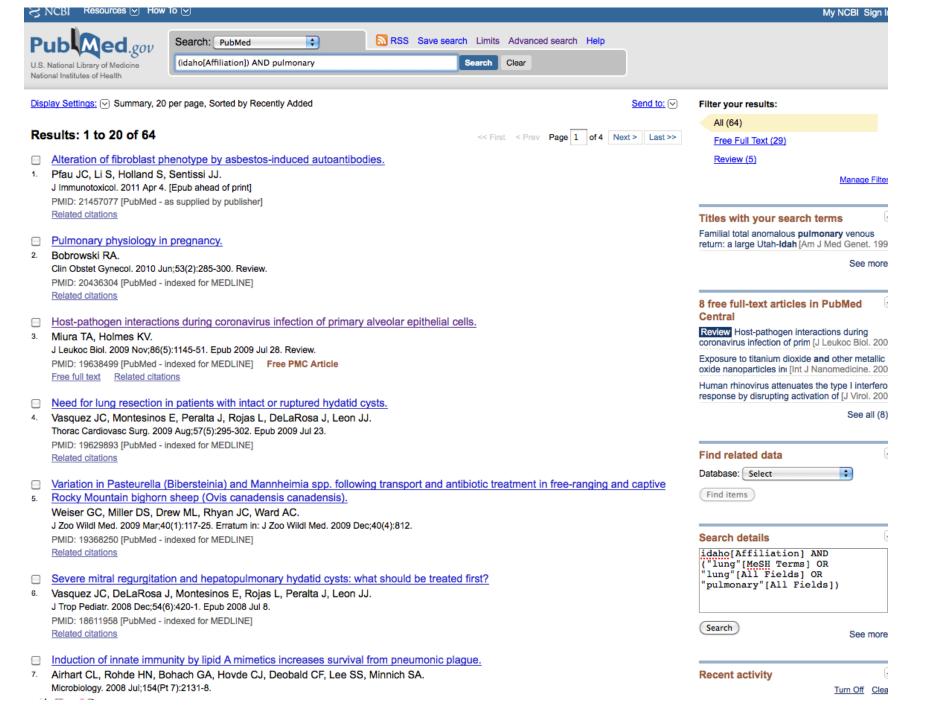
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J Leukoc Biol. 2009 Nov;86(5):1145-51. Epub 2009 Jul 28.

## Host-pathogen interactions during coronavirus infection of primary alveolar epithelial cells.

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#### Abstract

Viruses that infect the lung are a significant cause of morbidity and mortality in animals and humans worldwide. Coronaviruses are being associated increasingly with severe diseases in the lower respiratory tract. Alveolar epithelial cells are an important target for coronavirus infection in the lung, and infected cells can initiate innate immune responses to viral infection. In this overview, we describe in vitro models of highly differentiated alveolar epithelial cells that are currently being used to study the innate immune response to coronavirus infection. We have shown that rat coronavirus infection of rat alveolar type I epithelial cells in vitro induces expression of CXC chemokines, which may recruit and activate neutrophils. Although neutrophils are recruited early in infection in several coronavirus models including rat coronavirus. However, their role in viral clearance and/or immune-mediated tissue damage is not understood. Primary cultures of differentiated alveolar epithelial cells will be useful for identifying the interactions between coronaviruses and alveolar epithelial cells that influence the innate immune responses to infection in the lung. Understanding the molecular details of these interactions will be critical for the design of effective strategies to prevent and treat coronavirus infections in the lung.

PMID: 19638499 [PubMed - indexed for MEDLINE] PMCID: PMC2774885 Free PMC Article



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