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***Proposed Hypothesis for Host-Pathogen Interaction of Mycoplasma ovipneumoniae and Bighorn sheep (Ovis Canadensis)***

*Mycoplasma ovipneumoniae* is an induced pathogen that causes disease in Bighorn sheep (*Ovis canadensis*). Many individuals develop pneumonia, exhibiting acute signs of infection such as coughing and nasal discharge. Some of these animals can recover, and a portion of these become chronic carriers. Little is known about the reason for this difference of infection state in a population. However, it is vital to understand this difference between the dormancy in the upper respiratory tract and an acute infection in the lower respiratory tract. From an extensive literature research, a hypothesis was developed to predict the major pathogenic differences of infection of the upper respiratory tract and the lower respiratory tract and how survival is linked to this difference of infection. The understanding of this mechanism of infectious action is vital in the development of treatment of infected individuals and the possibility of persuading the organism's immune system to take the route that will allow for survival of an individual.