

+ T cell numbers (<200/mm³). Although most laboratory mouse strains including Balbc and C57BL/6, are susceptible to PC infection when depleted of CD4⁺ T cells, the FVB strain has been shown to be resistant. FVB resistance requires the presence of alveolar macrophages, but the mechanism of resistance has not been determined.

Objective: To determine whether enhanced generation of antimicrobial ROS, or increased lysosomal protease activity in FVB macrophages is associated with resistance.

Methods: Alveolar macrophages isolated from the lungs of FVB, Balbc, and C57BL6 mice by bronchoalveolar lavage (BAL) were stimulated with live or heat-killed PC organisms. Reactive oxygen species (ROS) were measured using a plate-based luminol assay, while cathepsin activity was measured using MagicRed fluorescent substrate. In some experiments concentrated BAL fluid was added to the macrophage and PC cultures.

Results: CD4-depleted FVB mice were determined to be fully resistant