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Título	IL-17A and complement contribute to killing of pneumococci following immunization with a pneumococcal whole cell vaccine
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Resumo	The pneumococcal whole cell vaccine (PWCV) has been investigated as an alternative to polysaccharide-based vaccines currently in use. It is a non-encapsulated killed vaccine preparation that induces non-capsular antibodies protecting mice against invasive pneumococcal disease (IPD) and reducing nasopharyngeal (NP) carriage via IL-17A activation of mouse phagocytes. Here, we show that PWCV induces antibody and IL-17A production to protect mice against challenge in a fatal aspiration-sepsis model after only one dose. We observed protection even with a boiled preparation, attesting to the stability and robustness of the vaccine. PWCV antibodies were shown to bind to different encapsulated strains, but complement deposition on the pneumococcal surface was observed only on serotype 3 strains; using flow cytometer methodology, variations in PWCV quality, as in the boiled vaccine, were detected. Moreover, anti-PWCV induces phagocytosis of different pneumococcal serotypes by murine peritoneal cells in the presence of complement or IL-17A. These findings suggest that complement and IL-17A may participate in the process of phagocytosis induced by PWCV antibodies. IL-17A can stimulate phagocytic cells to kill pneumococcus and this is enhanced in the presence of PWCV antibodies bound to the bacterial cell surface. Our results provide further support for the PWCV as a broad-range vaccine against all existing serotypes, potentially providing protection for humans against NP colonization and IPD. Additionally, we suggest complement deposition assay as a tool to detect subtle differences between PWCV lots.
Fomento	