

News & Comments

Expression Analysis of Outer Membrane Protein in Different Strains

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One of the opportunistic bacteria producing Glässer's illness in piglets, which is characterized by fibrinous polyserositis, polyarthritis, and meningitis, is *Glaesserella parasuis* (*G. parasuis*), formerly known as *Haemophilus parasuis* (HPS). *G. parasuis* has grown to be a serious worry for pig producers because of an increase in reports of this illness. By triggering the protective immunological response, vaccination has been proven to be beneficial in preventing *G. parasuis* infection. Different types of vaccinations have been created with the goal of preventing and controlling Glässer's illness by immunization. Although inert *G. parasuis* vaccines have certain drawbacks, such as varying degrees of cross-protection amongst *G. parasuis* serovars, a brief period of protection, and so on, they are nonetheless frequently utilized around the world. Western blotting was used to test the polyclonal antibody's specificity against HPS 06257, as previously mentioned. Briefly, His-SRA, a control protein, was used to transfer recombinant His-HPS 06257 to the membrane. The membrane was then blocked with 5% skim milk for 1 hour at room temperature. Version 5.01 of the GraphPad Prism program was used to analyse all data. The significance of differences was assessed using an unpaired Student's t test. This study adds new knowledge about HPS 06257's expression features and its function in the creation of a defence mechanism against *G. parasuis* infection. We identified strains of *G. parasuis* that express HPS 06257 and strains of *G. parasuis* that lack HPS 06257 using genomic analysis, PCR, and Western blotting. Antiserum against HPS 06257 displayed bactericidal efficacy in a whole blood killing assay, according to a prior study; however, the precise mechanism underlying this protective action is yet unknown. In the current study, authors provided more insight into the protective effect mediated by anti-HPS 06257 antiserum by demonstrating that antibody-dependent phagocytosis contributes to the protective effect induced by HPS 06257.

In summary, this is the first investigation to establish that antibody-dependent phagocytosis is involved in the protective effects of HPS 06257. These results deepen our understanding of the potential role of antibody-dependent phagocytosis in the immunological defence provided by other outer membrane proteins. Future research is thus required to confirm this in more detail. These discoveries also shed light on the *G. parasuis* protective antigens and offer helpful knowledge for the creation of a subunit vaccine to prevent *G. parasuis* infection.

Source: [Veterinary Sciences](#)

KEYWORDS

Glaesserella parasuis; HPS_06257; immunization; antibody-dependent phagocytosis

