Immunogenicity and haemagglutination of recombinant *Avibacterium paragallinarum* HagA

**Abstract**

The Gram-negative bacterium *Avibacterium (Haemophilus) paragallinarum* is the causative agent of infectious coryza, an economically important upper respiratory infection in chickens. The major economic effect of the diseases is a reduction in egg production (10%-40%) in layer flocks and an increased culling rate in broiler flocks (3). Haemagglutinin antigens of *A. paragallinarum* play a key role in serotyping, immunity, pathogenicity, and have been shown to be protective antigens. The haemagglutinin protein (HagA), a ~39 kDa protein and a common antigen among serovars, has also been identified (1). In this study, Hsu et al. reported that recombinant HagA (rHagA) plays a role in protection and haemagglutination (HA). The results showed that the rHagA subunit vaccine protected 71% of immunized chickens against $10^{10}$ colony-forming unit (CFU) of viable bacteria. Vaccinated chickens that showed no clinical signs of coryza developed haemagglutination inhibition (HI) titers of 1: 10 or greater. HA of serovars A and C was not affected by the presence of rHagA specific antiserum. The HA of rHagA could only be induced against formaldehyde-fixed chicken red blood cells (FA-RBCs). These results suggested that HagA is a moderate immunogen and might not be a major haemagglutinin in vivo. However, HagA might be involved in haemagglutination when treated serovar C aggregates fixed RBCs in vitro (2).

**References:**

