

Evaluation of a *Salmonella*-Vectored Vaccine Expressing a cjaA Epitope on *Campylobacter* Colonization in Broiler Chickens

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Food-borne illness is a worldwide public health concern and epidemiological evidence has identified poultry and poultry products as significant sources of human *Campylobacter* infection. Therefore, the reduction or elimination of this organism in commercial poultry flocks should greatly reduce the incidence of human infection. The objective of this study was to determine the ability of a *Salmonella*-vectored vaccine expressing *Campylobacter* epitopes to reduce *Campylobacter* colonization in broiler chickens following an oral challenge with multiple strains of *Campylobacter jejuni*. In this study, broiler chicks were randomly allocated on day-of-hatch into floor pens (n = 30 chicks/pen) and orally gavaged with 0.25mL of either 0.9% sterile saline (NC) or 1.4×10^9 cfu/chick of a *Salmonella*-vectored vaccine expressing a cjaA epitope. Twenty-one days post-hatch, birds in each treatment group were challenged via oral gavage with 0.25 ml of a solution containing an average of 3.0×10^6 cells/mL of a mixture of four *C. jejuni* isolates. On d 7, 14, and 21 post-*Campylobacter* challenge, ten birds from each treatment group were euthanized and their ceca were aseptically removed for enumeration of *Campylobacter*. Colonization data were analyzed using PROC GLM in SAS and values of $P \leq 0.05$ were considered statistically significant. Although the *Salmonella*-vectored vaccine was able to invade, colonize and persist in tissues, there were no significant differences in *Campylobacter* concentrations on d 7, 14, or 21 post-challenge. Further studies are needed to evaluate the ability of this *Salmonella*-vectored vaccine to reduce *Campylobacter* colonization in poultry.