

Efficacy of VP2 protein expressed in *E. coli* for protection against highly virulent infectious bursal disease virus

ABSTRACT

The ability of a heat-inactivated whole virus from a highly virulent infectious bursal disease virus (hvIBDV) and VP2 protein from hvIBDV expressed in *E. coli* provided protection against a hvIBDV challenge in specific-pathogen-free (SPF) chickens. Six out of seven chickens that were injected three times with crude VP2 protein developed significant antibody titer against IBDV. However, only four out of the seven chickens survived the hvIBDV challenge. Despite showing low antibody titer profiles, all chickens immunized with the heat-inactivated whole virus also survived the challenged with hvIBDV. However, all of these chickens had bursal atrophy and mild to moderate depletion of lymphocytes. Thus, antibodies raised against IBDV VP2 protein expressed in *E. coli* and denatured IBDV proteins induced some degree of protection against mortality but not against bursal damage following challenge with hvIBDV.

Keyword: Antibody response; *E. coli*; Heat-inactivated; Infectious bursal disease virus; VP2 subunit vaccine