SEROLOGICAL RESPONSE OF CALVES VACCINATED WITH 1 DOSE OF A gE-/tk- DELETED MLV IBR

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OBJECTIVE

HIPRABOVIS® IBR MARKER LIVE is modified live viral (MLV) marker vaccine against Infectious Bovine Rhinotracheitis (IBR). The objective of this study was to describe the dynamic of the humoral response against Bovine Herpesvirus 1 (BHV-1) induced by a 1-shot administration programme of this vaccine (off-label) and two other commercialized gE- MLVs up to the revaccination period.

MATERIALS AND METHODS

Calves between 6 and 7 months of life were randomly allocated into 4 groups and vaccinated intramuscularly with 1 dose of either HIPRABOVIS® IBR MARKER LIVE (G1 n=15) or two other licensed gE- MLVs (G2 n=15 and G3 n=14) or not vaccinated (G4 n=12). Animals were bled to obtain sera at 0, 42, 178 days post vaccination (dpv). BHV-1 gB/gE antibody responses were tested by using commercially available blocking ELISA kits. G1 was compared with the other vaccinated groups by non-inferiority tests. For this purpose, the 95% confidence interval (CI) of Geometric Mean Ratio (GMR) between G1 and the rest of vaccinated groups was estimated. Non-inferiority (NI) was stated when the inferior limit of the 95% CI was lower than 0.67.

RESULTS

Vaccinated calves were all seropositive against BHV-1 gB at 42 dpv and they maintained this status up to the end of the trial (Figure 1). The magnitude of the antibodies immune response against BHV-1 gB in G1 was non–inferior compared to the other vaccinated groups during the entire study (Table 1). Finally, all calves maintained a seronegative status against BHV-1 gE throughout the study; moreover, G4 did not showed any antibody response against BHV-1 gB. Therefore, the calves of the study were probably not exposed to wild-type BHV-1.

Figure 1. BoHV-1 gB antibody response. Average and standards deviation of B% values in each group. The red slashed line represents the negative cut-off (45B%). Group 1 n=15; group 2 n=15; group 3, n=14; group 4, n=12.

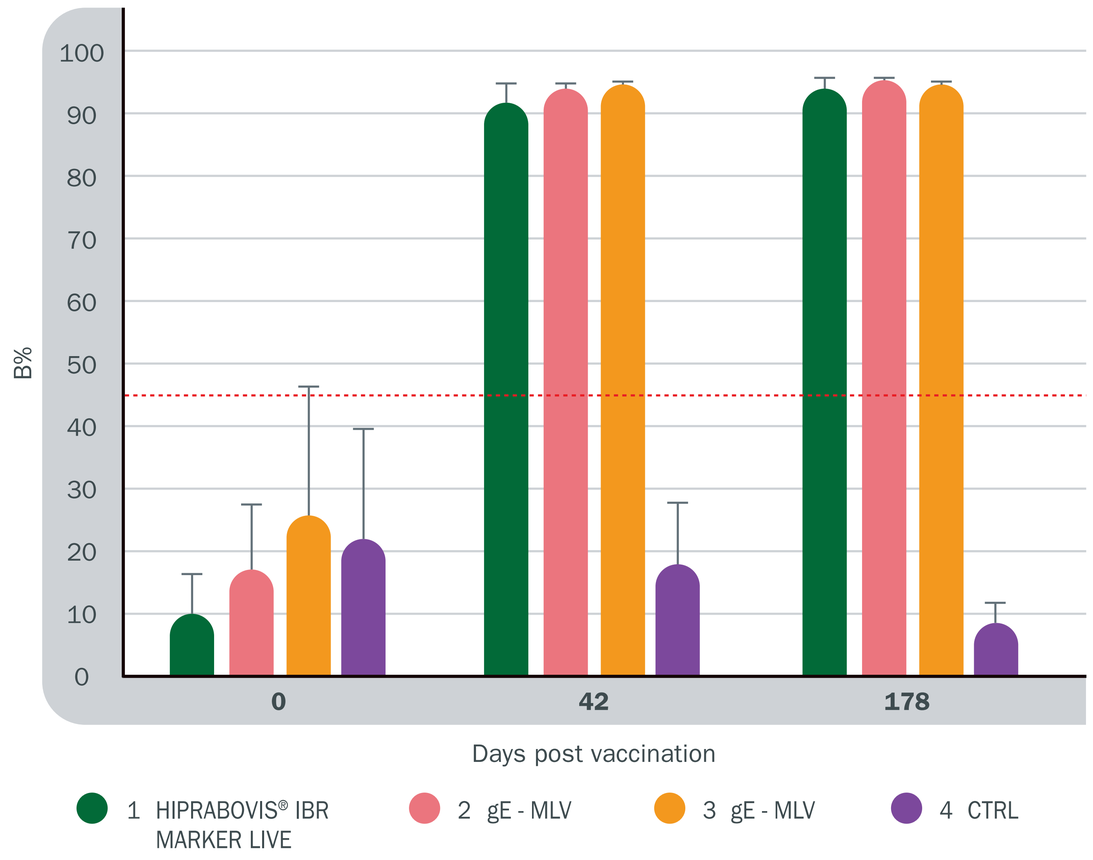

Table 1. Non inferiority test of 1 shot HB IBR MARKER LIVE (G1) versus 1 shot of competitors (G2 and G3). Antibodies against gB of BoHV-1 were compared (Blocking ELISA).

Comparison	95% IC	DPV	
		42	178
G1 vs. G2	Inf. Lim.	0,963	0,989
	GMR	0,974	0,994
	Sup. Lim.	0,985	0,998
	NI	Yes	Yes
G1 vs. G3	Inf. LIm.	0,961	0,990
	GMR	0,972	0,997
	Sup. Lim.	0,983	1,003
	NI	Yes	Yes

DPV: Days post vaccination.
GMR: Geometric Mean Ratio; IC: 95% Confidence Interval inferior (inf.) or superior (sup.) limits. NI: non Inferiority.
G1: HIPRABOVIS® IBR MARKER LIVE 1 shot.
G2/ G3: gE- – MLVs.

CONCLUSIONS

The serological response against BHV-1 gB induced by **HIPRABOVIS® IBR MARKER LIVE** showed non-inferiority in comparison with other protocols, when just one dose of the product was administered. Moreover, this was maintained up to the revaccination period. These results suggested that one dose of the double deleted IBR MLV might have immunogenic property similar to single deleted IBR MLVs.

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