SUMMARY
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1. The highest titre of MD bivalent vaccine was obtained at the thawing temperature of 35°C for 45 sec followed by 26°C for 45 sec, 20°C for 60 sec and 40°C at 45 sec when the vaccine was held on ice after reconstitution.

2. The difference in virus titre among 30, 90 and 120 min holding period at 26°C and 35°C thawing for 45 sec was significant (P<0.001). However the variation in titre between 30 and 90 min holding period was not significant for thawing temperatures of 20°C and 40°C (P>0.05).

3. No plaques were seen when the bivalent HVT+SB-1 vaccine was thawed at 45°C for 45 sec.

4. The vaccine titres were significantly different among the different thawing temperatures of 20°C for 60 sec and 26°C, 35°C (hold at both RT and on ice) and 40°C for 45 sec when the reconstituted vaccine was held on ice.

5. The difference in vaccine titre was insignificant between thawing temperature of 20°C at 90 min holding period on ice and thawing temperature of 35°C at holding period of 90 min at RT and between thawing temperature of 40°C at holding period of 120 min.

6. The titre obtained at 40°C was extremely low after a holding period of 120 min.

7. After thawing at 35°C for 45 sec, when the reconstituted vaccine was kept at RT, there was a drastic reduction in virus titre at 120 min holding time.

8. HVT+SB-1 bivalent vaccine and HVT cell free vaccines complied the safety test norms laid down by OIE.
9. Both HVT+SB-1 bivalent vaccine and HVT cell free vaccines vaccine passed the potency test as per OIE norms; however the protective index of HVT+SB-1 vaccine was marginally better than HVT vaccine.

10. CD8 lymphocyte counts of HVT+SB-1 vaccinated birds was higher than the control birds but statistically significant only on the 8th day pv, whereas, the CD8 cell counts between HVT vaccinated and control group was significant on day 23rd day pv and insignificant on remaining days tested.

11. The CD8 cell counts between HVT+SB-1 bivalent vaccinated birds and HVT vaccinated birds varied significantly on 23rd dpv with HVT+SB-1 group containing more CD8 cells than HVT group.

12. CD4 T cell counts between the unvaccinated control birds and HVT+SB-1 bivalent vaccinated birds and HVT vaccinated birds was significant on 16th dpv, wherein, counts were higher in unvaccinated control birds, indicating active replication of MDV-1.

14. CD4 T lymphocyte counts between HVT+SB-1 vaccinated and HVT vaccinated birds were not significant throughout the study period.

15. The relative MDV-1 load between the control group and HVT+SB-1 bivalent vaccinated group of birds was not significant on 7th day pc, however, on 14th day pc reduction of MDV-1 load in HVT+SB-1 group of birds was moderately significant (P≤0.05), whereas on 28th, 43rd and 61st day pc, it was found to be highly significant (P≤0.01).
16. As a whole, relative MDV-1 load was lower in HVT+SB-1 vaccinated group compared to HVT vaccinated groups throughout the study period. There was a steady decrease of MDV-1 load in both the vaccinated groups up to 35th dpv, thereafter declining rapidly.

17. The relative load of MDV-1 load between the control birds and HVT vaccinated birds was not significant on 7th dpc but the relative decrease in MDV-1 load in HVT vaccinated group of birds was moderately significant on the remaining days of evaluation compared to the unvaccinated controls.

18. There was no significant difference in relative HVT load between HVT and HVT+SB-1 vaccinated birds.

19. Histopathology revealed lymphoid cells infiltration of visceral organs in vaccinated as well control groups. However the extent, severity and intensity of lymphoid cell infiltration were limited in the vaccinated group compared to control birds.

20. Infiltration of sciatic nerve with lymphoid cells was absent in HVT+SB-1 and HVT vaccinated groups.

21. Histopathology lesions were fewer and milder in HVT+SB-1 vaccinated birds compared to HVT vaccinated birds.