Immunoprotection in sheep against *Haemonchus contortus* using its thiol-purified excretory/secretory proteins

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**Abstract**

Excretory/Secretory antigen was prepared by culturing live adult worms of *Haemonchus contortus* in RPMI 1640 medium at a concentration of 50 worms per ml in a culture-flask at 37 °C for 24 hr and the culture supernatant was used as antigen. The E/S antigen was purified by thiol-Sepharose affinity chromatography. On western blot analysis, it was demonstrated that thiol-purified antigen showed a single reactive band at 66 kDa. In immunization trial, sheep were administered intramuscularly with 500 µg of thiol-purified excretory/secretory antigen along with montanide as adjuvant on day 0, 30 and 60. On ELISA, it was observed that the mean absorbance values were significantly (p ≤ 0.01) higher up to 20 weeks post immunization in Group-1 (purified antigen) compared to Group-2 (unpurified control). Further, the mean PEG values was lower in Group I (2000.0 ± 40.82 to 400.00 ± 91.29) than Group II (2200.0 ± 108.01 to 5100.00 ± 169.56) and the percentage reduction in mean fecal egg count was 89.50%. Similarly, the mean abomasal worm counts was lower in Group I (808.33 ± 76.29) than Group II (3280.00 ± 147.19) and the percentage reduction in mean abomasal worm count was 75.40%.

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