



austindavis
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Horse Serum Tapeworm ELISA Kit: Technical Information

Species reactivity: Horse

Immunogen: 12/13 kDa tapeworm antigens

Sample type: Serum

Application: Diagnosing tapeworm infections
in horses to inform treatment

Format: 96 wells in stripwell format for up to 3 uses

Reagents and materials provided

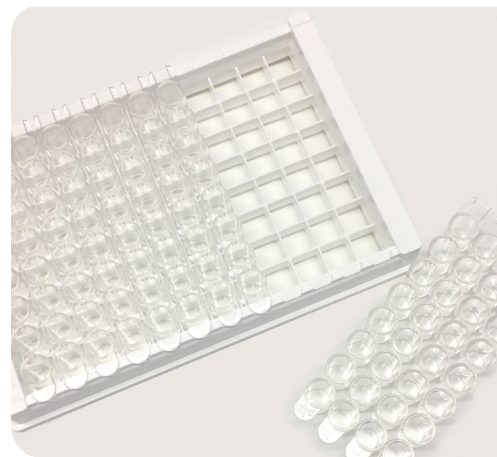
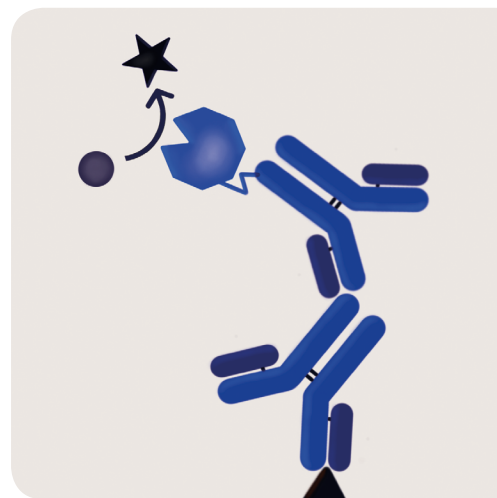
- ELISA plate pre-sensitised with tapeworm antigens
- Vacuum packed ELISA plate in stripwell format allowing three separate uses of the kit if required
 - 3 uses = up to 33 samples
 - 2 uses = up to 38 samples
 - 1 use = up to 43 samples

Calibration reagent supplied – anti-tapeworm IgG

- Calibration curves must be performed for each ELISA test for quality control and to calculate serum scores
- Anti-horse IgG(T):Horseradish Peroxidase (HRP) conjugate
- 3,3',5,5'-Tetramethylbenzidine (TMB) Liquid Substrate System

Serum Tapeworm ELISA validation

- Validation is published in Veterinary Clinical Pathology (Lightbody, K. L. *et al.* (2016) Vet. Clin. Path., 45: 335–346).
- 85% sensitivity and 78% specificity is obtained for a 1+ tapeworm cut-off.
- No false negatives were obtained for horses with pathogenic burdens. Although 15% of horses were misclassified as negative, all had a burden of no more than 20 tapeworms.



Serum Tapeworm ELISA storage and shelf life

- ELISA plate storage: -20°C
- Other kit components: 4°C
- 24 weeks shelf life at recommended storage temperatures
- 4 weeks shelf life once ELISA plate seal is broken

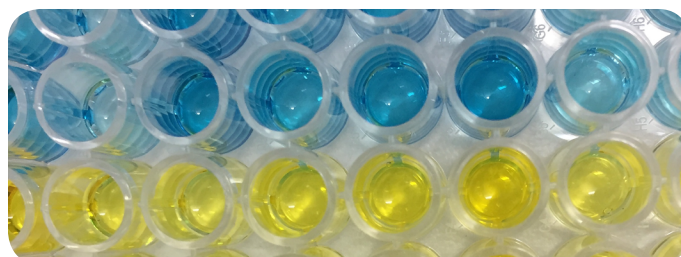
	% CV for 25 calibrator	% CV range for samples (n=6)
Inter-variability [#]	5.5 %	5.9 – 10.9 %

#17 test kits over 24 week stability trial

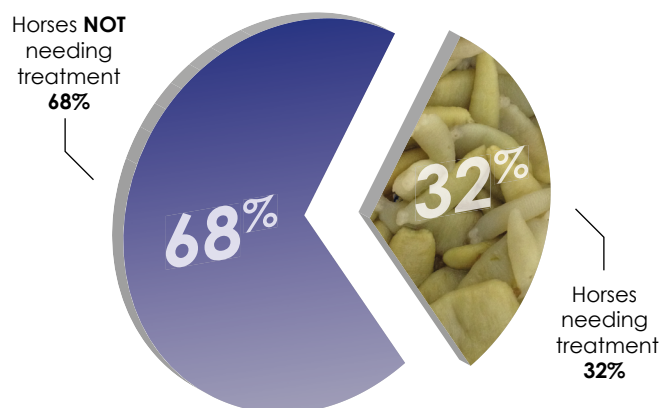
Serum Tapeworm ELISA precision

	% CV for 25 calibrator	% CV range for samples (n=8)
Intra-variability	2.5 %	1.3 – 5.1 %
Inter-variability*	4.6 %	2.0 – 13.0 %

*8 ELISA plates over 5 days



Proportion of horses requiring anti-tapeworm treatment in the UK during 2018



Key Materials and Equipment required but not provided include:

- Microbalance
- Plate reader capable of absorbance readings at 450 nm
- Pipettes including multichannel pipette
- Plate washer (preferable)
- PBS tablets
- Tween 20
- Bovine Serum Albumin (Sigma – A9647)
- Plate sealing films if running >1 test

Cost and potential profit

Cost of ELISA kit: £210.00

Recommended price per sample (ex VAT) £15.00	Number of samples	Laboratory turnover per ELISA kit	Laboratory profit per ELISA kit
1 x use of kit	43	£645.00	£435.00
2 x use of kit	38	£570.00	£360.00
3 x use of kit	33	£495.00	£285.00

This ELISA kit should only be used by experienced, qualified technicians.