



## Horse Serum Tapeworm ELISA Kit: Technical Information

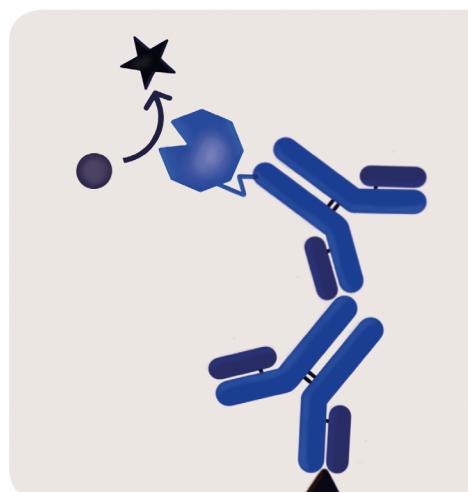
**Species reactivity:** Horse

**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.

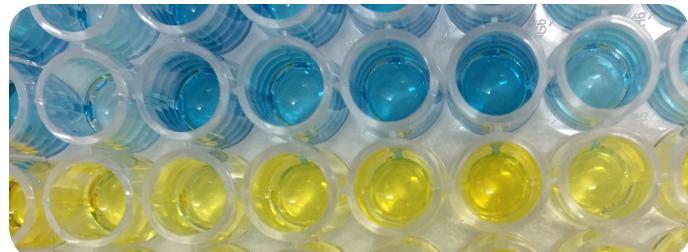
## Serum Tapeworm ELISA storage and shelf life

- 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

## 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 %

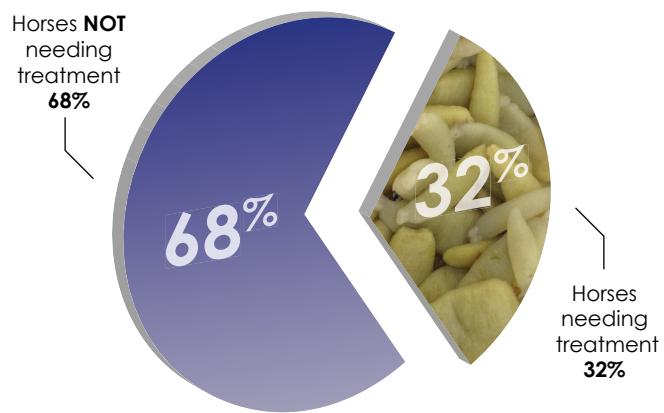
\*8 ELISA plates over 5 days



	% CV for 25 calibrator	% CV range for samples (n=6)
Inter-variability <sup>#</sup>	5.5 %	5.9 – 10.9 %

#17 test kits over 24 week stability trial

## 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.