



InSight Equine-IA eACTH Evaluation vs. Tosoh AIA-CL Series



The InSight Equine-IA is an easy to use Veterinary Immunoassay Analyser providing accurate and reliable results in 3-15 minutes. The InSight Equine-IA uses immunofluorescence technology for accurate results. A competitive binding assay is based upon the competition of labelled and unlabelled analytes for a limited number of antibody binding sites. Unbound antibodies and immunocomplexes migrate along the nitrocellulose membrane towards the test line. The unbound antibodies are then captured by antigens immobilised on the test line. The fluorescent signal intensity reflects the amount of analytes captured and is measured by the InSight Equine-IA.

Equine ACTH

Intermediate pituitary dysfunction (PPID) is a common equine hormonal disorder that affects 20% of adult horses. This disease is caused by degeneration of dopaminergic neurons in the hypothalamus, resulting in hormone-secreting adenomas or intermediate hyperplasia of the pituitary gland. As corticotropin is the most easily measured hormone originating in the middle, and its concentration correlates well with clinical symptoms, detecting increased plasma concentrations of corticotropin is the most common way to identify cases of PPID or confirm clinical suspicions of PPID

Comparison Items

InSight Equine-IA:

Test Item – Equine ACTH Sample Type – Fresh Equine Serum Quantity of Samples – 45 Tests Instrument – InSight Equine-IA Veterinary Immunoassay Analyser

Gangzhumed:

Test Item – ACTH Sample Type – Fresh Equine Serum Quantity of Samples – 45 Tests Instrument – Tosoh AIA-CL Series

Results

eACTH		Tosoh					
eA		Positive	Positive Negative				
InSight	Positive	15	1	16			
Equine-	Negative	1	28	29			
IA	Total	16	29	45			

Positive Coincidence Rate	93.8%	
Negative Coincidence Rate	96.6%	
Total Coincidence Rate	95.6%	





InSight Equine-IA Equine ACTH Reference Range

Detection Range: 1.0-2000 pg/mL (0.220-440 pmol/L) Reference Range (Other Seasons):

Reference	pg/mL	pmol/L			
Normal	<25	<5.5			
Abnormal	>25	>5.5			

Reference Range (Autumn):

Reference	pg/mL	pmol/L			
Normal	<75	<16.7			
Abnormal	>75	>16.7			

1 225.64 250.23 2 350.17 410.38 3 14.18 3.64 4 20.86 44.00 5 686.82 784.50 6 15.22 17.25 7 140.55 250.23 8 1802.47 2264.00 9 11.34 3.31 10 1456.57 1730.61 11 35.41 15.91 12 13.00 18.64 13 12.50 18.64 14 101.24 110.32 15 7.17 14.21 16 27.36 44.00 17 51.47 53.46 18 10.35 13.02 19 7.74 9.53 20 45 49.95 21 29.53 53.12 22 17.44 7.59 23 21.94 13.65 24 11.39 10.33	Sample	InSight Equine-IA (pg/mL)	Vcheck (pg/mL)				
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308.786.8331319.37309.69324.1914.26	28	22.81	15.81				
31 319.37 309.69 32 4.19 14.26	29	15.28	23.50				
32 4.19 14.26	30	8.78	6.83				
	31	319.37	309.69				
33 18.16 15.03	32	4.19	14.26				
	33	18.16	15.03				
34 7.77 0.00							

InSight[®]Equine-IA



35	14.25	6.31			
36	8.75	3.66			
37	9.37	17.85			
38	438.26	524.32			
39	20.37	16.31			
40	7.35	5.42			
41	30.21	22.13			
42	22.05	23.60			
43	12.28	16.39			
44	18.02	16.54			
45	9.55	12.21			

Sample Concentration	1	2	3	4	5	6	7	8	9	10	Mean Value	Bias%
10 pg/mL	10.91	11.28	9.47	10.08	10.78	10.92	10.86	11.3	10.77	10.57	10.69	7%
50 pg/mL	53.55	49.39	52.91	55.07	52.06	45.63	55.29	50.62	56.35	56.91	52.78	6%
250 pg/mL	274.85	221.98	224.36	238.51	254.79	224.65	222.73	226.02	275.39	266.49	242.98	-3%

Conclusion

Based on comparative analysis, the total coincidence rate of InSight Equine-IA Equine ACTH Rapid Quantitative Test Kit and Tosoh AIA-CL Series is as high as 93.8%, indicating that the InSight Equine-IA reagent is comparable to the Tosoh AIA-CL Series Test Kit.