



InSight V-IA Equine ACTH Evaluation
vs. Tosoh AIA-CL Series

The InSight V-IA is an easy to use Veterinary Immunoassay Analyser providing accurate and reliable results in 3-15 minutes. The InSight V-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 V-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 V-IA:

Test Item – Equine ACTH

Sample Type – Fresh Equine Serum

Quantity of Samples – 45 Tests

Instrument – InSight V-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		
		Positive	Negative	Total
InSight V-IA	Positive	15	1	16
	Negative	1	28	29
	Total	16	29	45

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

InSight V-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

Sample	InSight V-IA (pg/mL)	Tosoh (pg/mL)
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
25	17.90	20.89
26	19.23	9.45
27	18.55	9.82
28	22.81	15.81
29	15.28	23.50
30	8.78	6.83
31	319.37	309.69
32	4.19	14.26
33	18.16	15.03
34	7.77	0.00

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 V-IA Equine ACTH Rapid Quantitative Test Kit and Tosoh AIA-CL Series is as high as 93.8%, indicating that the InSight V-IA reagent is comparable to the Tosoh AIA-CL Series Test Kit.