InSight Equine-IA eSAA Evaluation vs. VET240

InSight® Equine-IA

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 alongthe 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 SAA

SAA is used as a general marker for inflammatory response.

Comparison Items

InSight Equine-IA:
Test Item – eSAA
Quantity of Samples – 50 fresh equine serum samples
Instrument – InSight Equine-IA Immunoassay Analyser
Lot: H081241114/H081241113/H081240812

VET240:
Test Item – eSAA
Quantity of Samples – 50 fresh equine serum samples

Repeatability and Lot-to-Lot Variation Study

Repeatability was assessed by performing repeated analysis of 3 quality controls on InSight Equine-IA eSAA devices. Repeatability was determined by running n=10 replicates per quality control level. Lot-to-lot variation was evaluated by calculating the coefficient of variation for the same quality control concentration across different lots of InSight Equine-IA eSAA devices. The results of this study are for reference.
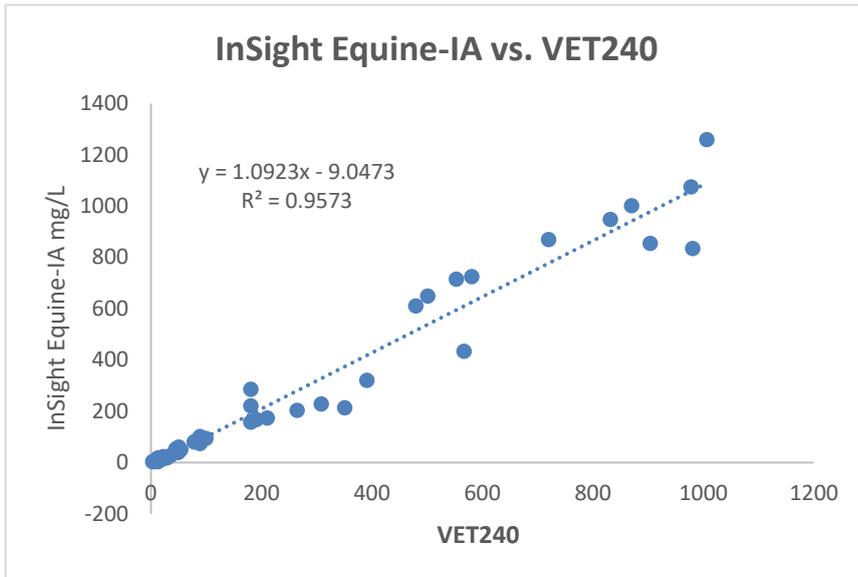
Test Results

Sample No.	InSight Equine-IA (mg/L) Lot: H081241114	VET240
1	948.3	831.4
2	203.4	264.2
3	724.8	580.5
4	60.6	50.2
5	39.8	49.3
6	156.9	180.7
7	855.1	903.7
8	835.2	980.6
9	649.2	501.1
10	433.4	566.7
11	228.2	308.1
12	715.2	552.8
13	213.0	350.9
14	1259.3	1005.9

15	50.4	53.7
16	94.2	99.2
17	84.7	84.7
18	85.2	81.9
19	101.2	88.4
20	79.9	78.3
21	74.4	88.9
22	95.8	90.4
23	23.1	22.0
24	52.9	44.8
25	49.0	51.1
26	27.0	35.0
27	21.3	22.1
28	167.7	190.7
29	173.6	210.5
30	870.0	720.0
31	285.2	180.5
32	1001.9	870.2
33	611.3	479.2
34	1075.5	977.7
35	220.7	180.6
36	321.2	390.5
37	3.8	3.7
38	2.6	2.8
39	18.2	28.5
40	17.8	12.6
41	18.2	19.9
42	8.3	8.5
43	16	19.5
44	13.3	12.9
45	3.4	12.5
46	12	18.5
47	10.9	10.8
48	14.7	15.24
49	9.5	9.8
50	18.25	25.14

eSAA		VET240		
		Positive	Negative	Total
InSight Equine-IA	Positive	36	0	36
	Negative	2	12	14
	Total	38	12	50

Positive Coincidence Rate	94.74%
Negative Coincidence Rate	100%
Total Coincidence Rate	96%

InSight Equine-IA vs. VET240

$y = 1.0923x - 9.0473$
$R^2 = 0.9573$

Repeatability and Lot-to-Lot Variation Study

Quality Control Concentration	Lot: H081241114										Average Value	CV
	1	2	3	4	5	6	7	8	9	10		
15 mg/L	14.64	14.49	14.84	16.75	13.26	14.43	16.31	13.83	14.41	13.03	14.599	8.08%
200 mg/L	196	192.1	215.5	188.3	217.8	224.6	216.9	208.2	227.4	212.9	209.97	6.46%
1200 mg/L	1323.9	1243.6	1330.1	1186.2	1393.2	1139.3	1276.3	1385.9	1171.8	1340.3	1279.102	7.08%

Quality Control Concentration	Lot			CV
	H081241114	H081241113	H081240812	
15 mg/L	18	22	19	10.58%
200 mg/L	189	205	215	6.46%
1200 mg/L	1355	1157	1247	7.91%

Conclusion

Based on our comparative analysis, the total agreement rate between InSight Equine-IA eSAA and the VET240 eSAA test is 96.00%. The tests show a strong correlation ($R^2 = 0.9573$). The coefficients of variation (CV) for repeatability are less than 10%, while the lot-to-lot variation is less than 15%. This data indicates that the InSight Equine-IA reagent is comparable to the VET240 quantitative reagent.