carystaHVC

Iron FS* Ferene

In-vitro-Diagnostic for veterinary use only

Diagnostic reagent for quantitative in vitro determination of iron in serum or plasma on Zoetis CARYSTA™ HVC

Order Information

Cat. No. 1 1911 99 17 921
4 twin containers for 120 tests each

Method

Photometric test using Ferene

Principle

Iron bound to transferrin is released in an acidic medium as ferric iron and is then reduced to ferrous iron in the presence of ascorbic acid. Ferrous iron forms a blue complex with Ferene. The absorbance is directly proportional to the iron concentration.

$$\text{Transferrin } (Fe^{3+})_2 \xrightarrow{\text{Ascorbic acid, Buffer}} 2\ Fe^{2+} + \text{Transferrin}$$

$$Fe^{2+} + 3\ \text{Ferene} \longrightarrow \text{Ferrous Ferene (blue complex)}$$

Reagents

Components and Concentrations

R1:	Acetate buffer	pH 4.5	1 mol/L
	Thiourea		120 mmol/L
R2:	Ascorbic acid		240 mmol/L
	Ferene		3 mmol/L
	Thiourea		120 mmol/L

Storage Instructions and Reagent Stability

The reagents are stable up to the end of the indicated month of expiry, if stored at 35.6 – 46.4°F and contamination is avoided. Do not freeze the reagents! Reagents should be protected from light. Zoetis CARYSTA containers provide protection from light.

Warnings and Precautions

1. Reagent 1: Danger. H315 Causes skin irritation. H318 Causes serious eye damage. P264 Wash hands and face thoroughly after handling. P280 Wear protective gloves/protective clothing/eye protection/face protection. P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a poison center or doctor/physician.
2. Use only disposable material to avoid iron contamination.
3. In very rare cases, samples of animals with gammopathy might give falsified results.
4. Please refer to the safety data sheets and take the necessary precautions for the use of laboratory reagents. For diagnostic purposes, the results should always be assessed with the animal's medical history, clinical examinations and other findings.
5. For professional use only!

Waste Management

Please refer to local legal requirements.

Reagent Preparation

The reagents are ready to use. The bottles are placed directly onto the reagent rotor.

Specimen

Serum or heparin plasma
Separate serum/plasma at the latest 2 h after blood collection to minimize hemolysis.
Stability :
2 days at 39.2°F to 46.4°F
Discard contaminated specimens.

Calibrators and Controls

For calibration, TruCal U calibrator is recommended. The assigned values of the calibrator have been made traceable to the NIST Standard Reference Material® SRM 682. For internal quality control TruLab N and P controls should be assayed. Each laboratory should establish corrective action in case of deviations in control recovery.

	Cat. No.	Kit size
TruCal U	5 9100 99 17 063	20 x 3 mL
TruLab N	5 9000 99 17 062	20 x 5 mL
TruLab P	5 9050 99 17 062	20 x 5 mL

Performance Characteristics

The performance characteristics were evaluated with human samples and might differ from results obtained with various animal specimen.

Measuring range up to 1000 µg/dL iron (in case of higher concentrations re-measure samples after manual dilution with NaCl solution (9 g/L) or use rerun function).	
Limit of detection**	4 µg/dL iron
On-board stability	6 weeks
Calibration stability	7 days

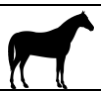
Interfering substance	Interferences < 10%	Iron [µg/dL]
Ascorbate	up to 30 mg/dL	97.9
Hemoglobin	up to 24 mg/dL	38.7
	up to 90 mg/dL	159
Bilirubin, conjugated	up to 65 mg/dL	40.0
	up to 65 mg/dL	143
Bilirubin, unconjugated	up to 70 mg/dL	50.5
	up to 70 mg/dL	144
Lipemia (triglycerides)	up to 1900 mg/dL	39.4
	up to 1900 mg/dL	140
Copper	up to 200 µg/dL	97.1
Zinc	up to 400 µg/dL	95.7
For further information on interfering substances refer to Young DS. Effects of Drugs on Clinical Laboratory Tests. 5th. ed. Volume 1 and 2. Washington, DC: The American Association for Clinical Chemistry Press, 2000.		

** according to NCCLS document EP17-A, vol. 24, no. 34

Conversion Factor

Iron [µg/dL] x 0.1791 = [µmol/L]

Reference Range

				
DOG	**CAT**	**HORSE**	**CATTLE**	**Unit**
83 – 246	**40 – 135**	**100 – 240 ***	**50 – 150 ***	**µg/dL**

Source:
Reference ranges have been validated by DiaSys USA according to National Reference Laboratory standards.

* Estimated:
Source: Diagnostic Center for Population and Animal Health; Clinical Pathology Laboratory; Michigan State University East Lansing.

Each laboratory should check if the reference ranges are transferable to its own animal population and determine own reference ranges if necessary.

Manufacturer

Manufactured for Zoetis by
DiaSys Diagnostic Systems GmbH
Alte Strasse 9 65558 Holzheim Germany