UIBC FS*

In-vitro-Diagnostic for veterinary use only

Diagnostic reagent for quantitative in vitro determination of the unsaturated iron binding capacity in serum or plasma on DiaSys respons®910 VET

Order information

Cat. No. 1 1921 99 11 921
4 twin containers for 120 determinations each

Method

Photometric test using Ferene

Principle

A known ferrous ion concentration incubated with sample, binds specifically with transferrin at unsaturated iron binding sites. Remaining unbound ferrous ions are measured with the ferene reaction. The difference between the amount of excess iron and the total amount added to the serum is equivalent to the quantity bound to transferrin. This is the UIBC (unsaturated iron binding capacity) of the sample.

$2\ Fe^{2+}$ (known) + Transferrin ⟶ Transferrin (Fe^{3+}) + Fe^{2+} (excess)

Fe^{2+}(excess) + 3 Ferene ⟶ Ferene (blue complex)

Reagents

Components and Concentrations

R1:	Buffer	pH 8.7	100 mmol/L
	Ammonium iron (II) sulfate		13 µmol/L
	Thiourea		120 mmol/L
R2:	Ascorbic acid		240 mmol/L
	Ferene		6 mmol/L
	Thiourea		125 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, protected from light and contamination is avoided. DiaSys respons containers provide protection from light. Do not freeze the reagents!

Warnings and Precautions

1. Reagent 1: Danger. H318 Causes serious eye damage. H351 Suspected of causing cancer. H361d Suspected of damaging the unborn child. P201 Obtain special instructions before use. 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/doctor.
2. Reagent 2: Warning. H351 Suspected of causing cancer. H361d Suspected of damaging the unborn child. P201 Obtain special instructions before use. P280 Wear protective gloves/protective clothing/eye protection/face protection. P308+P313 If exposed or concerned: Get medical advice/attention.
3. Use only disposable material to avoid iron contamination.
4. In very rare cases, samples of animals with gammopathy might give falsified results.
5. To avoid contamination and carryover, special care should be taken in combination with Ferritin SR reagent.
6. 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.
7. 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, heparin plasma
Separate serum/plasma at the latest 2 h after blood collection to avoid hemolysis.

Stability :
2 days at 39.2°F to 46.4°F
Discard contaminated specimens.

Calibrators and Controls

For calibration, DiaSys TruCal U calibrator is recommended. The assigned values of the calibrator have been made traceable to a measurement of transferrin and iron. Thereby, the transferrin value is traceable to ERM®-DA470k/IFCC and the iron value is traceable to NIST SRM 682. DiaSys TruLab N control should be assayed for internal quality control. Each laboratory should establish corrective action in case of deviations in control recovery.

	Cat. No.	Kit size
TruCal U	5 9100 99 11 064	6 x 3 mL
	5 9100 99 11 063	20 x 3 mL
TruLab N	5 9000 99 11 062	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 640 µg/dL UIBC (in case of higher concentrations re-measure samples after manual dilution with NaCl solution (9 g/L) or use rerun function).	
Limit of detection**	23 µg/dL UIBC
On-board stability	2 weeks
Calibration stability	1 week

Interfering substance	Interferences < 10 %	UIBC [µg/dL]
Ascorbate	up to 30 mg/dL	146
Hemoglobin	up to 50 mg/dL	179
	up to 150 mg/dL	375
Bilirubin, conjugated	up to 60 mg/dL	139
	up to 60 mg/dL	318
Bilirubin, unconjugated	up to 65 mg/dL	204
	up to 50 mg/dL	404
Lipemia (triglycerides)	up to 2000 mg/dL	196
	up to 2000 mg/dL	369
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

UIBC [µg/dL] x 0.1791 = UIBC [µmol/L]

Reference Range

		
DOG	**CAT**	**Unit**
71 – 371	**70 – 400 ***	**µg/dL**

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

* Estimated: Based on preliminary results and findings in the literature.

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

Manufacturer

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