



Calcium P FS*

In-vitro-Diagnostic for veterinary use only

Diagnostic reagent for quantitative in vitro determination of calcium in serum or plasma on DiaSys respons[®] 910 VET

Order Information

Cat. No. 1 1181 99 11 920
4 twin containers for 200 tests each

Method

Photometric endpoint determination with Phosphonazo III

Principle

In an acidic medium calcium forms a purple-blue colored complex with phosphonazo III. In a second step calcium is bound to a chelating agent whereby the specific signal is eliminated. The resulting difference in absorbance is directly proportional to the calcium concentration in the sample. This guarantees a specific measurement of calcium.

Reagents

Components and Concentrations

R1:	Malonic acid buffer	pH 5.0	150 mmol/L
	Phosphonazo III		150 µmol/L
R2:	Malonic acid		150 mmol/L
	Chelating agent		< 150 mmol/L

Storage Instructions and Reagent Stability

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!

Warnings and Precautions

1. Reagent 1: Warning. H319 Causes serious eye irritation. H412 Harmful to aquatic life with long lasting effects. P273 Avoid release to the environment. 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. P337+P313 If eye irritation persists: Get medical advice/attention. P501 Dispose of contents/container to hazardous or special waste collection point.
2. As calcium is a ubiquitous ion, special precaution must be taken against accidental contamination.
3. Traces of chelating agent, such as EDTA can prevent the formation of the colored complex.
4. In very rare cases, samples of animals with gammopathy might give falsified results.
5. 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.
6. 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
Do not use EDTA plasma.

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. This method has been standardized against the reference method Atomic Absorption Spectrometry (AAS). For internal quality control DiaSys 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 11 063	20 x 3 mL
TruLab N	5 9000 99 11 062	20 x 5 mL
TruLab P	5 9050 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 16 mg/dL calcium (in case of higher concentrations re-measure samples after manual dilution with NaCl solution (9 g/L) or use rerun function).	
Limit of detection**	0.35 mg/dL calcium
On-board stability	4 weeks
Calibration stability	4 weeks





Interfering substance	Interferences < 10%	Calcium [mg/dL]
Ascorbate	up to 30 mg/dL	9.47
Hemoglobin	up to 1000 mg/dL	7.81
	up to 1000 mg/dL	12.3
Bilirubin, conjugated	up to 70 mg/dL	9.10
	up to 70 mg/dL	16.2
Bilirubin, unconjugated	up to 70 mg/dL	9.10
	up to 70 mg/dL	16.2
Lipemia (triglycerides)	up to 1900 mg/dL	7.75
	up to 1900 mg/dL	13.8
Magnesium	up to 20 mg/dL	10.3
Strontium salts in medicine may lead to strongly increased calcium values.		
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

Calcium [mg/dL] x 0.2495 = Calcium [mmol/L]

Reference Range

				Unit
DOG	CAT	HORSE	CATTLE	
9.3 – 11.6	9.1 – 11.8	10.8 – 13.4	9.6 – 11.2	mg/dL

Source:

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

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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