



# Potassium FS\*

In-vitro-Diagnostic for veterinary use only

Diagnostic reagent for quantitative in vitro determination of potassium in serum or plasma on DiaSys respons<sup>®</sup>910 VET

## Order Information

Cat. No. 1 5221 99 11 921

4 twin containers for 100 tests each

## Method

Enzymatic photometric test

## Principle

Pyruvate kinase is activated by K<sup>+</sup> ions in the sample and subsequently catalyzes the dephosphorylation of phosphoenolpyruvate to pyruvate. In a second step pyruvate is transformed to lactate under consumption of a NADH analogue. The rate of the signal decrease measured at 340 nm is proportional to the amount of potassium in the sample.

## Reagents

### Components and Concentrations

<b>R1:</b>	Buffer	pH 8.25	40 mmol/L
	NADH analogon		0.4 mmol/L
	Phosphoenolpyruvate (PEP)		2.5 mmol/L
	ADP		2.5 mmol/L
	Lactate dehydrogenase (LDH)		> 5 kU/L
<b>R2:</b>	Buffer	pH 7.0	200 mmol/L
	Pyruvate kinase (PK)		> 0.5 kU/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. The potassium test is very susceptible to potassium contamination. The sole use of ultrapure glass ware and disposable materials is strongly recommended.
2. Reagents contain biological material. Handle the product as potentially infectious according to universal precautions and good laboratory practice.
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 lithium heparin plasma

Stability :

2 days at 39.2°F to 46.4°F

Separate from cellular components within one hour after blood collection. Do not use hemolytic samples!

Discard contaminated specimens.

### Calibrators and Controls

For calibration, the DiaSys TruCal E calibrator is recommended. The assigned values of TruCal E have been made traceable to the NIST Standard Reference Material<sup>®</sup> SRM 956. 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 E	1 9310 99 11 079	4 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 2 – 8 mmol/L potassium	
Limit of detection**	0.4 mmol/L potassium
On-board stability	4 weeks
Calibration stability	7 days

Interfering Substance	Interferences ≤ 4.5%	Potassium concentration
Ascorbate	up to 60 mg/dL	3.25 mmol/L
Bilirubin, conjugated	up to 60 mg/dL	4.85 mmol/L
	up to 35 mg/dL	3.28 mmol/L
Bilirubin, unconjugated	up to 60 mg/dL	5.04 mmol/L
	up to 60 mg/dL	3.23 mmol/L
Lipemia (Triglyceride)	up to 60 mg/dL	5.08 mmol/L
	up to 1000 mg/dL	3.04 mmol/L
Hemoglobin	up to 1000 mg/dL	4.99 mmol/L
	up to 500 mg/dL	3.14 mmol/L
Hemolysis interferes because Potassium is released by erythrocytes.	up to 500 mg/dL	5.34 mmol/L
Sodium	from 130 – 170 mmol/L	3.24 mmol/L
	from 106 – 206 mmol/L	5.23 mmol/L
Ammonium	up to 300 µmol/L	4.50 mmol/L
Calcium	from 1.8 – 10.0 mmol/L	3.07 mmol/L
	from 2.2 – 10.0 mmol/L	5.04 mmol/L
Magnesium	up to 2.8 mmol/L	5.25 mmol/L
Manganese	up to 200 nmol/L	2.88 mmol/L
	up to 200 nmol/L	4.88 mmol/L
Phosphate	from 0.9 – 7.0 mmol/L	2.87 mmol/L
	from 1.2 – 7.0 mmol/L	4.72 mmol/L
Zinc	up to 500 µmol/L	2.92 mmol/L
	up to 500 µmol/L	4.88 mmol/L
Iron	up to 1000 µmol/L	3.40 mmol/L
	up to 1000 µmol/L	5.38 mmol/L
Copper	up to 500 µmol/L	3.65 mmol/L
	up to 500 µmol/L	5.58 mmol/L

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

Potassium [mmol/L] = Potassium [mEq/L]

Potassium [mmol/L] x 3.91 = Potassium [mg/dL]

## Reference Range

				Unit
DOG	CAT	HORSE	CATTLE	
3.9 – 6.1	3.5 – 5.9	2.9 – 5.6	4.2 – 6.3	mmol/L

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

DiaSys Diagnostic Systems GmbH  
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