ß-Hydroxybutyrate 21 FS*

In-vitro-Diagnostic for veterinary use only

Diagnostic reagent for quantitative in vitro determination of β-hydroxybutyrate in serum or plasma on DiaSys respons®910 VET

Order Information

Cat. No. 1 3711 99 11 921
4 twin containers for 120 tests each

Method

Enzymatic determination with β-hydroxybutyrate-dehydrogenase

Principle

β-Hydroxybutyrate + NAD $\xrightarrow{\text{β-Hydroxybutyrate-dehydrogenase}}$ Acetoacetate + NADH + H^+

The absorbance at 340 nm is proportional to the β-hydroxybutyrate concentration in the sample.

Reagents

Components and Concentrations

R1:	Buffer	pH 8.5	< 150 mmol/L
	β-Hydroxybutyrate-dehydrogenase		≥ 1 kU/L
R2:	Buffer	pH 4.3	< 70 mmol/L
	NAD		< 25 mmol/L
Standard:			1 mmol/L

Storage Instructions and Reagent Stability

The reagents and the standard 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 and protect from light. DiaSys respons® containers provide protection from light.

Warnings and Precautions

1. Reagent 1: Warning. H319 Causes serious eye irritation. 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.
2. Reagent 1 contains sodium azide (0.95 g/L) as preservative. Do not swallow! Avoid contact with skin and mucous membranes.
3. Reagent 1 contains biological material. Handle the product as potentially infectious according to universal precautions and good laboratory practice.
4. In very rare cases, samples of animals with gammopathy might give falsified results.
5. 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

Refer to local legal requirements.

Reagent Preparation

The reagents and the standard are ready to use. The bottles are placed directly into the reagent rotor.

Specimen

Serum or heparin plasma

Stability :
2 days at 39.2°F to 46.4°F

Discard contaminated specimens.

Calibrators and Controls

DiaSys β-Hydroxybutyrate Standard FS is recommended for calibration. β-Hydroxybutyrate Standard FS values have been made traceable to the weighing of purest β-hydroxybutyrate. Use DiaSys TruLab N and P for internal quality control. Each laboratory should establish corrective action in case of deviations in control recovery.

	Cat. No.	Kit size
β-Hydroxybutyrate Standard FS	1 3700 99 11 030	3 x 3 mL
TruLab N	5 9000 99 11 062	20 x 5 mL
	5 9000 99 11 061	6 x 5 mL
TruLab P	5 9050 99 11 062	20 x 5 mL
	5 9050 99 11 061	6 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	
Measuring range from 0.05 – 6.0 mmol/L β-hydroxybutyrate (in case of higher concentrations re-measure samples after manual dilution with NaCl solution (9 g/L) or use rerun function).	
Limit of detection**	0.05 mmol/L β-Hydroxybutyrate
Onboard stability	6 weeks
Calibration stability	6 weeks

Interfering substance	**Interferences < 10% up to**	**HBUT [mmol/L]**
Acetaminophen	1.50 mmol/L	0.226
	1.50 mmol/L	2.86
Acetoacetate	5.00 mmol/L	0.208
	5.00 mmol/L	2.91
Acetylsalicylic acid	60 mg/dL	0.200
	60 mg/dL	2.88
Ascorbic acid	50 mg/dL	0.211
	50 mg/dL	2.89
Bilirubin (conjugated)	50 mg/dL	0.224
	50 mg/dL	2.87
Bilirubin (Unconjugated)	50 mg/dL	0.225
	50 mg/dL	2.88
Hemoglobin	500 mg/dL	0.223
	1000 mg/dL	2.87
α-Hydroxybutyrate	7.0 mmol/L	0.270
	7.0 mmol/L	1.26
Lipemia (triglycerides)	1000 mg/dL	0.243
	1500 mg/dL	2.21
NAC	1000 mg/L	0.204
	1000 mg/L	2.86
No interference by lactate and lactate dehydrogenase. 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 CLSI document EP17-A2, vol. 32, no.8

Conversion Factor

ß-Hydroxybutyrate [mg/dL] x 0.0962 = ß-Hydroxybutyrate [mmol/L]

* fluid stable
June 2019/4

Reference Range

				
DOG	**CAT**	**HORSE**	**CATTLE**	**Unit**
0.0 – 1.0 *	**0.0 – 1.0 ***	**1.0 – 3.1 ***	**2.3 – 10.0 ***	**mg/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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