HBDH

Hidroxy-butyrate-dehydrogenase
Kinetic test UV

Cat.No. 101-0462 *Size 20 x 3 ml*

PRINCIPLE:

Optimized test according to the recommendation of IFCC.

$$\alpha - ketobutyrate + NADH + H^{+} \xrightarrow{HBDH} \alpha - hidroxybutyrate + NAD^{+}$$

The rate of NADH consumption is determined photometrycally and is directly proportional to the HBDH activity in the sample material.

SAMPLE:

Serum. Stable 24 hours at 2 – 8 ºC.

REAGENTS:

1. Reagent 1
   Tris pH 7.5 50 mmol/L
   α-ketobutyrate 3 mmol/L
2. Reagent 2
   NADH 0.18 mmol/L

Stored at +2 °C to +8 °C.

PREPARATION OF REAGENTS:

Dissolve one tablet into one vial of buffer Reagent 1 (working reagent).
This working regarent is stable 5 days at 2 – 8 ºC or 24 hours at room temperature.

PROCEDURE:

Wavelength:	340 nm Hg (334 or 365 nm Hg)
Cuvette:	1 cm light path
Temperature:	25 / 30 / 37 °C
Zero:	air or destilled water

	25 / 30 °C	37 °C
Working reagent	3.0 mL	3.0 mL
Sample	100 µL	50 µL
Mix and wait 1 min. Measure the extintion decrease per minute for 1-3 minutes. Calculate ΔA/min.		

Calculation:

ΔA/min x Factor = U/L HBDH

At 25 / 30 °C:

340 nm (ΔA/min) x **4925** = U/L
Hg 334 nm (ΔA/min) x **5020** = U/L
Hg 365 nm (ΔA/min) x **9120** = U/L

At 37 °C:

340 nm (ΔA/min) x **9690** = U/L
Hg 334 nm (ΔA/min) x **9880** = U/L
Hg 365 nm (ΔA/min) x **17950** = U/L

EXPECTED VALUES:

25 ºC	30 ºC	37 ºC	Units
55-140	65-165	72-182	U/L

LINEARITY:

If the ΔA/min at 340 nm or 334 nm is greater of 0.150 or at Hg 365 nm is greater of 0.080, repeat the test using a sample diluted 1 : 10 with saline solution.

QUALITY CONTROL:

CONTRO-N	20 x 5 ml	Cat. No. 101-0083
CONTRO-P	20 x 5 ml	Cat. No. 101-0084

NOTES:

Hemolysis will interfere.

REFERENCES:

1. Clin.Chem. u Clin. Biochem. 8, 658 (1970).