AGD

CliniPak

LDH-P

(IFCC Method)

Code	Pack Size
AGDSP - LDH50	R1 : 2 X 20 mL R2 : 2 X 5 mL
AGD SP-LDH40	R1-2 X 16mL R2-2X4mL

INTENDED USE

This reagent is used for in-vitro diagnostics use only for Lactate Dehydrogenase (LDH) activity in serum only.

CLINICAL SIGNIFICANCE

Lactate Dehydrogenase (LDH) present in every cell, is a tetramer molecule which is a combination of two different tissue components(M-muscle, H-Heart).There are five different isoenzymes: LDH-1, LDH-2, LDH-3, LDH-4, LDH-5=20:34:23:12:11. The serum activity is mainly composed of LDH-1, LDH-2 derived from myocardium and red blood cells, and LDH-5 derived from liver.The activities of isoenzymes are different in cases of certain substrates.The inhibitors and pH sensitivities are different. The various fractions were deter-mined using chromatography in the past but more recently electrophoresis is the method of choice.

Increased levels : The ratio of isoenzyme indicates certain disease states.The enzyme activity significantly increase 8-12 hours following a myocardial infarction and declines after 4-5 days. There is an increases in liver diseases, in certain anaemia and tissue injuries. The enzyme catalyses the Pyruvate/Lactate transformation at optimal pH.

PRINCIPLE

LDH catalyses the transformation of pyruvate to Lactate in Tris buffer with NaCl in the NADH coenzyme.The transformation of NADH to NAD is accompanied by a decrease in the absorbance at 340nm. The change in absorbance correlates with the LDH activity in the serum.

$$\text{Pyruvate} + \text{NADH} + H^+ \xrightarrow{\text{HCl}} \text{Lactate} + NAD^+$$

correlates with the LDH activity in the serum

PROCEDURE

Reagent 1 + Incubation + Sample
(240µL) (60Sec) (6µL)

Reagent 2 ⟶ Absorbance
(60µL) (180 Sec) (340nm)

REAGENT COMPOSITION

REAGENT 1

Tris buffer pH 7.5	≈ 100 mmol/L
Sodium pyruvate Stabilizer, excipients and surface active agents	≈ > 1.2 mmol/L

REAGENT 2

Tris buffer pH > 9.0	≈ 20 mmol/L
NADH Stabilizer , excipients and surface active agents	≈ > 1.1 mmol/L

STORAGE AND STABILITY

The reagent is stable till the expiry date stated on the reagent bottle label when stored at 2-8ºC protected from sunlight.

BASIC PARAMETERS

SHORT NAME	LDH-P
NAME	LDH-P
METHOD	IFCC METHOD
ASSAY	KINETIC (RATE A)
MAIN WAVE	340 nm
SUB WAVE	0
DECIMAL	2
UNIT	IU/L
R1 VOLUME	240µL
INCUBATION	60sec
R2 VOLUME	60µL
SAMPLE VOLUME	6µL
INCUBATION	0
MIXING SPEED	0
REACTION TIME (Delay)	60 sec
CHECK TIME (Read)	120 sec
LINEAR RANGE	1800
ABSORBANCE RANGE	0 - 2.5
LINEARITY LIMIT	50
SUBSTRATE SHORTAGE	<0.7
CALIBRATION TYPE	SINGLE SPOT LINEARITY
DILUTION RATIO	6
SAMPLE VOLUME	50

LINEARITY

Reagent is linear upto 1800 IU/L.
Dilute the sample appropriately and re-assay if LDH activity exceeds 1800 IU/L. Multiply result with dilution factor.

REFERENCE NORMAL VALUE

Adults: 230 to 460 IU/L

QUALITY CONTROL

To ensure adequate quality control,it is recommended that the laboratory should use a normal and abnormal commercial reference control serum.The quality control material is used to check the function of reagents and the machine together.

LIMITATIONS & PRECAUTIONS

- Do not freeze or expose the reagents to higher temperature as it may affect the performance of the kit.
- Storage condition as mentioned on the kit to be adhered.
- Before the assay bring all the reagents to the room temperature.
- Avoid contamination of the reagent during assay process.
- Use clean glassware free from dust and debris.
- Reagent to sample ratio as mentioned above must be strictly adhered, as any changes it affects the factor and result.
- In case reagent comes in contact with eyes,immediately rinse with plenty of water and seek medical advice.

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EU REP

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