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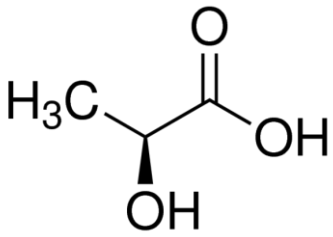
Lactic Acid (Lactate) assay kit (96 Tests)
(V4124)

Introduction:

ZellBio (GmbH, Germany) lactate assay Kit provides a simple, reproducible, and standardized tool for assessment of lactate concentration in biological samples e.g. **plasma** (2.5mg fluoride/2mg oxalate/mL of blood)**, tissue homogenates, and cell lysates and cell culture** supernatant. The lactate determine colorimetrically at **546nm**. Avoid contamination of reagent, samples and glassware by saliva or sweat because they have high lactate content.



Lactate Oxidase cleaves lactate into Pyruvate and hydrogen peroxide which reacts in the presence of Peroxidase with 4-aminoantipyrine and TBHB to a red chinonimin dye. The increase of color is proportional to the lactate concentration.

$$\text{Lactate} + O_2 + \text{Lactate Oxidase} \longrightarrow \text{Pyruvate} + H_2O_2$$
$$2H_2O_2 + \text{TBHB} + \text{4-aminoantipyrine} \longrightarrow \text{Chinonimin} + 4H_2O$$

Kit Contents:

1. Reagent 1: ZB-LA-R1, Enzyme Reagent 32mL, (LA191), Ready to Use.
2. Reagent 2: ZB- LA-R2, Standard 0.4mL, (LA192).
3. Microplate: ZB- LA-M, (LA193).

Assay Range:

ZellBio lactate assay kit can be used for total lactate content determination in range of up to 200mg/dL (22.2mmol/L). Expected value for human plasma samples usually are 5-20 mg/dL.

Assay Sensitivity:

ZellBio lactate assay kit can determine lactate content in wide variety of biological samples with 2mg/dL (0.2 mmol/L) sensitivity. The assay sensitivity was determined based on zero standard signal repeat and Mean±2SD.

Assay Precision:

Human plasma sample with replication No.8 showed the intra and inter assay coefficient of variation 1.7% and 2.3% respectively.

Assay Protocol:

All reagents/samples must be equilibrated to RT before test. Shake the samples for homogenation well.

1. Add 10µL unknown samples/standard/DDW as blank into related wells of microplate.
2. Add 300µL Enzyme Reagent into all wells.
3. Incubate 5min at room temperature.
4. Read the wells absorbance with microplate reader/ELISA reader at 546nm.
5. Calculate lactate in unknown samples based on below formula:

$$Lactate\,(\mathrm{mg/dl\ or\ mmol/L}) = \left(\frac{OD\ Sample - OD\ Blank}{OD\ Standard - OD\ Blank}\right) \times Standard\ Concentration$$

References:

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