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Lysozyme ELISA Kit

Name	Lysozyme ELISA Kit
INTENDED USE	The Calbiotech (CBI) Lysozyme ELISA Kit is intended for the quantitative measurement of lysozyme in human serum or stool.
SUMMARY AND EXPLANATION	Lysozyme (muramidase) is an enzyme present in serum, plasma, amniotic fluid, stool, saliva, tears, urine and other biological fluids. Elevated lysozyme levels in urine and serum have been reported in many human disease states, including Crohn's disease, leukemias (FAB-M4, CMML, CML), tuberculosis, megaloblastic anemias, acute bacterial infections, ulcerative colitis, severe renal insufficiency, pyelonephritis, nephrosis and renal transplant rejection.
PRINCIPLE OF THE TEST	The CBI Lysozyme kit is a solid phase direct ELISA sandwich method. The samples and the working anti-lysozyme enzyme conjugate are added to the wells coated with anti-lysozyme monoclonal antibody. Lysozyme in the patient's sample is bound to the monoclonal capture antibody and detected with a polyclonal detection antibody. Unbound lysozyme and anti-lysozyme enzyme conjugate is washed off by washing buffer. Upon the addition of the substrate, the intensity of color is proportional to the concentration of Lysozyme in the samples. A standard curve is generated relating color intensity to the concentration of Lysozyme.

MATERIALS PROVIDED	96 tests
1. Microwell plate coated with anti-Lysozyme Monoclonal Ab	12x8x1
2. Lysozyme Standard: 7 vials (ready to use)	0.25ml
3. Lysozyme Controls:	0.25ml

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2 vials (ready to use)	
4. Anti-Lysozyme Enzyme Conjugate: 1 vial (Ready to use)	12ml
6. Sample Diluent (ready to use)	40ml
7. TMB Substrate: 1 bottle (ready to use)	12ml
8. Stop Solution: 1 bottle (ready to use)	12ml
9. 20X concentrate: 1 bottle	25ml

MATERIALS NOT PROVIDED

Distilled or deionized water

Precision pipettes

Disposable pipette tips

ELISA reader capable of reading absorbance at 450nm

Absorbance paper or paper towel

Graph paper

STORAGE AND STABILITY

1. Store the kit at 2 – 8 C.

Keep microwells sealed in a dry bag with desiccants.

The reagents are stable until expiration of the kit.

Do not expose test reagents to heat, sun, or strong light.

WARNINGS AND PRECAUTIONS

Potential biohazardous materials:

The calibrator and controls contain human source components, which have been tested and found non-reactive for hepatitis B surface antigen as well as HIV antibody with FDA licensed reagents. However there is no test method that can offer complete assurance that HIV, Hepatitis B virus or other infectious agents are absent. These reagents should be handled at the Biosafety Level 2, as recommended in the Centers for Disease Control/National Institutes of Health manual, "Biosafety in Microbiological and Biomedical Laboratories" 1984.

Do not pipette by mouth. Do not smoke, eat, or drink in the areas in which specimens or kit reagents are handled.

The components in this kit are intended for use as an

	integral unit. The components of different lots should not be mixed. It is recommended that standards, control and serum samples be run in duplicate. Optimal results will be obtained by strict adherence to this protocol. Accurate and precise pipetting, as well as following the exact time and temperature requirements prescribed are essential. Any deviation from this may yield invalid data.
SPECIMEN COLLECTION HANDLING	Collect blood specimens and separate the serum immediately. Specimens may be stored refrigerated at (2-8 C) for 5 days. If storage time exceeds 5 days, store frozen at (-20 C) for up to one month. Avoid multiple freeze-thaw cycles. Prior to assay, frozen sera should be completely thawed and mixed well. Do not use grossly lipemic specimens.
REAGENT PREPARATION	Samples: Dilute serum samples 1:250 in sample diluent. Dilute stool samples 1:100 in sample diluent. Wash Concentrate: Prepare 1X Wash buffer by adding the contents of the bottle (25 ml, 20X) to 475 ml of distilled or deionized water. Store at room temperature (20-25°C).
ASSAY PROCEDURE	Before proceeding with the assay, bring all reagents, serum references and controls to room temperature (20-25°C). Format the microplate wells for each serum reference, control and patient specimen to be assayed in duplicate. Replace any unused microwell strips back into the aluminum bag, seal and store at 2-8°C. Pipette 25µl of the standards, controls and diluted samples into the assigned well. Add 100µl of anti-lysozyme enzyme conjugate solution into all wells. Incubate the plate for 60 minutes at room temperature, with shaking.

Remove liquid from all wells. wells three times with 300 of 1X wash buffer (see Reagent Preparation Section). Blot on absorbent paper towels.

Add 100µl of TMB substrate solution to all wells

Incubate the plate for 15 minutes at room temperature.

Add 50µl of stop solution to each well and gently mix for 15-20 seconds.

Read the absorbance on ELISA Reader of each well at 450nm within 15 minutes after adding the stop solution.

CALCULATION OF RESULTS

The standard curve is constructed as follows:

Check Lysozyme standard value on each standard vial. This value might vary from lot to lot. Make sure you check the value on every kit. See example of the standard attached.

To construct the standard curve, plot the absorbance for Lysozyme standards (vertical axis) versus Lysozyme standard concentrations (horizontal axis) on a linear graph paper. Draw the best curve through the points.

Read the absorbance for controls and each unknown sample from the curve. Record the value for each control or unknown sample.

Example of a standard Curve

	OD 450 nm	Conc. ng/mL
Std 1	0.078	0
Std 2	0.18	1.25
Std 3	0.306	2.5
Std 4	0.600	5
Std 5	1.066	10
Std 6	1.710	20
Std 7	2.532	40

LIMITATIONS OF THE TEST

The test results obtained using this kit serve only as an aid to diagnosis and should be interpreted in relation to the patient history, physical findings and other diagnostic procedures.

Do not use sodium azide as preservative. Sodium azide inhibits HRP enzyme activities.

EXPECTED VALUES

It is recommended that each laboratory establish their own

range of expected values for the population being tested.

PERFORMANCE CHARACTERISTICS

Sensitivity

Sensitivity was determined by testing 20 negative samples and adding the mean plus two times the standard deviation of the results. The sensitivity is 0.021 ng/ml.

Serum	Number of Replicates	Mean (ng/ml)	Standard Deviation	Sensitivity (Mean+2 SD)
Zero Standard	20	0.002	0.010	0.021

REFERENCES

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