

REFERENCES

1. Agharanya JC. Clinical usefulness of ELISA technique in the assessment of thyroid function. West Afr J Med 1990;9(4):258-63.
2. Hankiewicz, J. and Swierczuk, E. 1974. Lysozymes in Human Body Fluids. Clinica Chemica Acta, 57: 205-209.
3. Meyor, K., Gelhorn, A., Prudden, J.F., et al. 1948. Lysozyme Activity in Ulcerative Alimentary Diseases. American Journal of Medicine, 5: 496-502.
4. Prockup, D.J. and Davidson, W.D., 1964. A Study of Urinary and Serum Lysozyme in Patients with Renal Disease, New England Journal of Medicine, 270: 269.

2025-08-08



Lysozyme ELISA

Catalog No. LS162C (96 tests)

INTENDED USE

The Calbiotech Lysozyme ELISA Kit is intended for the quantitative measurement of lysozyme in human serum or stool. **For Research Use Only. For professional use only. Not for use in diagnostic procedures.**

SUMMARY & EXPLANATION

Lysozyme is an antimicrobial enzyme present in various secretions and cell types, cleaving peptidoglycan in bacterial cell walls. Research applications include innate immunity, host defense, bacteriolysis kinetics, and antimicrobial protein structure–function relationships.

PRINCIPLE OF THE TEST

The 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)	0.25 mL
3.	Lysozyme Controls: 2 vials (ready to use)	0.25 mL
4.	Anti-Lysozyme Enzyme Conjugate: 1 vial (Ready to use)	12 mL
5.	Sample Diluent: 2 bottles (ready to use)	2 x 20 mL
6.	TMB Substrate: 1 bottle (ready to use)	12 mL
7.	Stop Solution: 1 bottle (ready to use)	12 mL
8.	20X Wash Concentrate: 1 bottle	25 mL

MATERIALS NOT PROVIDED

1. Distilled or deionized water
2. Precision pipettes
3. Disposable pipette tips
4. ELISA reader capable of reading absorbance at 450nm
5. Absorbance paper or paper towel
6. Graph paper

STORAGE AND STABILITY

1. Store the kit at 2 – 8° C.
2. Keep microwells sealed in a dry bag with desiccants.
3. The reagents are stable until expiration of the kit.
4. Do not expose test reagents to heat, sun, or strong light.

WARNINGS AND PRECAUTIONS

Potential biohazardous materials:

1. The standards 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, as 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.
2. Do not pipette by mouth. Do not smoke, eat, or drink in the areas in which specimens or kit reagents are handled.
3. The components in this kit are intended for use as an integral unit. The components of different lots should not be mixed.
4. It is recommended that standards, control and serum samples be run in duplicate
5. 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

This assay is designed for use with human serum or plasma samples obtained in compliance with applicable laws, regulations, and institutional policies. Handle and store samples using procedures appropriate for research use. Samples may be stored refrigerated (2–8 °C) for up to seven days, or frozen (–20 °C or below) for up to six months. Avoid repetitive freeze–thaw cycles.

REAGENT PREPARATION

1. Samples: Dilute serum samples 1:250 in sample diluent. Dilute stool samples 1:100 in sample diluent.
2. 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).

1. 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.
2. Pipette 25µl of the standards, controls and diluted samples into the assigned well.
3. Add 100µl of anti-lysozyme enzyme conjugate solution into all wells.
4. Incubate the plate for 60 minutes at room temperature, with shaking.
5. Remove liquid from all wells. Wash wells three times with 300 of 1X wash buffer (see Reagent Preparation Section). Blot on absorbent paper towels.
6. Add 100µl of TMB substrate solution to all wells
7. Incubate the plate for 15 minutes at room temperature.
8. Add 50µl of stop solution to each well and gently mix for 15-20 seconds.
9. 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:

1. 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.
2. 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.
3. 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

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