Test Definition: MURA

Lysozyme (Muramidase), Plasma

Overview

Useful For

As a screening test for ocular sarcoidosis

Confirming marked increases in the granulocyte or monocyte pools as in granulocytic or monocytic leukemias, myeloproliferative disorders, and malignant histiocytosis

Following the course of therapy in cases of chronic granulocytic or chronic monocytic leukemias

Method Name

Turbidimetric

NY State Available

Yes

Specimen

Specimen Type

Plasma EDTA

Specimen Required

Collection Container/Tube: Lavender top (EDTA)
Submission Container/Tube: Plastic vial
Specimen Volume: 2 mL Plasma
Collection Instructions:
1. Within 2 hours of collection, centrifuge and aliquot plasma into a plastic vial.
2. Freeze immediately.

Forms

If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
-Benign Hematology Test Request (T755)
Hematopathology/Cytogenetics Test Request (T726)

Specimen Minimum Volume

Plasma: 1 mL

Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Plasma EDTA	Frozen	21 days	

Clinical & Interpretive

Clinical Information

Lysozyme is a bacteriolytic enzyme that is found in some hematopoietic cells. It is primarily present in granulocytes, monocytes, and histiocytes. The enzyme is present in only minute amounts in lymphocytes; and is not present in myeloblasts, eosinophils, and basophils.

Lysozyme in the plasma comes chiefly from the degradation of granulocytes and monocytes and its concentration reflects the turnover of these cells. Increases are seen in benign (eg, infection, inflammation) and malignant processes (eg, some leukemias). Plasma lysozyme is elevated in patients with acute or chronic granulocytic or monocytic leukemias and falls with successful treatment. Conversely, patients with lymphocytic leukemia may have depressed plasma lysozyme levels.

Patients with kidney disorders (including rejection of transplanted kidneys) or Crohn disease (regional enteritis) also tend to have elevated levels of plasma lysozyme.

Reference Values

> or =12 months: 2.6-6.0 mcg/mL

Reference values have not been established for patients younger than 12 months.

Interpretation

Levels above 200 mcg/mL may be seen in acute nonlymphocytic leukemia (M2, M4, M5) or chronic granulocytic leukemias.

Cautions

Increased levels may be seen in nonmalignant disorders including sarcoidosis, infections, Crohn's disease, kidney transplant rejection, and other kidney disorders.

Clinical Reference

1. Catovsky D, Galton DA, Griffin C. The significance of lysozyme estimations in acute myeloid and chronic monocytic leukaemia. Br J Haematol. 1971;21(5):565-580
2. Herbort CP, Roa NA, Mochizuki M; members of Scientific Committee of First International Workshop on Ocular Sarcoidosis. International criteria for the diagnosis of ocular sarcoidosis: Results of the first International Workshop on Ocular Sarcoidosis (IWOS). Ocul Immunol Inflamm. 2009;17(3):160-169
3. Bergantini L, Bianchi F, Cameli P, et al. Prognostic biomarkers of sarcoidosis: A comparative study of serum chitotriosidase, ACE, lysozyme, and KL-6. Dis Markers. 2019;2019:8565423 doi:10.1155/2019/8565423

Performance

Method Description

The term lysozyme is derived from the ability of this enzyme to dissolve the walls of certain bacteria, including *Micrococcus lysodeikticus.* This organism is suspended in buffer, and the sample is added. The resulting decrease in turbidity is measured spectrophotometrically. The rate of clearing is a reflection of the concentration of the enzyme.(Litwack G: Photometric determination of lysozyme activity. Proc Soc Exp Biol Med. 1955;89(3):401-403)

PDF Report

No

Day(s) Performed

Monday through Friday

Report Available

2 to 5 days

Specimen Retention Time

7 days

Performing Laboratory Location

Mayo Clinic Laboratories - Rochester Main Campus

Fees & Codes

Fees

- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact Customer Service.

Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. It has not been cleared or approved by the US Food and Drug Administration.

CPT Code Information

85549

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
MURA	Lysozyme (Muramidase), P	2589-0

Result ID	Test Result Name	Result LOINC® Value
MURA	Lysozyme (Muramidase), P	2589-0