Test Definition: IL1B

Interleukin-1 Beta, Plasma

Overview

Useful For

Measuring the concentration of interleukin-1 beta in plasma

Evaluating patients experiencing inflammatory conditions, autoinflammatory disorders, and infection

Highlights

This test may aid the evaluation and monitoring of patients experiencing inflammatory conditions, autoinflammatory disorders, and infection.

Method Name

Bead-Based Multiplex Immunoassay

NY State Available

Yes

Specimen

Specimen Type

Plasma EDTA

Ordering Guidance

If this test is ordered with CYPAN / Cytokine Panel, Plasma, this test will be canceled as duplicate and CYPAN performed as ordered.

Specimen Required

Supplies: Sarstedt Aliquot Tube, 5 mL (T914)
Collection Container/Tube: Lavender top (EDTA)
Submission Container/Tube: Plastic vial
Specimen Volume: 0.5 mL
Collection Instructions:
1. Immediately after specimen collection, place tube on wet ice.
2. Centrifuge at 4 degrees C, 1500 x g for 10 minutes.
3. Aliquot plasma into plastic vial.
4. Freeze specimen within 2 hours of collection.

Additional Information:
1. Plasma for this test cannot be shared with other tests. Submit specimen for this test in its own vial.
2. This test cannot be added on to a previously collected specimen.

Specimen Minimum Volume

0.3 mL

Reject Due To

Gross hemolysis	Reject
Gross lipemia	Reject
Gross icterus	Reject
Heat-treated specimen	Reject

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Plasma EDTA	Frozen	21 days	

Clinical & Interpretive

Clinical Information

Interleukin-1 (IL-1) beta is a potent pro-inflammatory cytokine that is crucial for host-defence responses to infection and injury. IL-1 beta binds to IL-1 receptor 1 (IL-1R1) and initiates inflammatory responses in T-lymphocytes, epithelial cells and endothelial cells.(1,2) Excess IL-1 beta signaling have been associated with acute inflammation and chronic autoinflammatory diseases.(3) Plasma IL-1 beta concentrations are elevated in some rheumatoid arthritis patients compared to healthy volunteers. There are increased concentrations of IL-1 beta and tumor necrosis factor-alpha in synovial fluid of rheumatoid arthritis patients.

Several biologics, such as anakinra and canakinumab, have been developed to inhibit the IL-1 signaling pathway by blocking IL-1 beta binding to IL-1 receptors in rheumatoid arthritis, familial Mediterranean fever, cryopyrin-associated periodic syndromes, etc.(2,4)

Reference Values

<18 years: Not established
> or =18 years: <20.0 pg/mL

Interpretation

Elevated interleukin-1 beta concentrations could indicate the presence of inflammatory or infectious condition.

Cautions

Results from interleukin-1 (IL-1) beta testing should not be used to establish or exclude a specific diagnosis.

Testing for IL-1 beta should only be used in conjunction with clinical information and other laboratory testing as part of a patient's overall assessment.

Normal concentration of IL-1 beta does not exclude the possibility of infection or inflammatory disorders.

Concentrations of IL-1B could be affected by immunomodulatory agents.

Clinical Reference

1. Pretre V, Papadopoulos D, Regard J, Pelletier M, Woo J. Interleukin-1 (IL-1) and the inflammasome in cancer. Cytokine. 2022;153:155850
2. Imazio M, Lazaros G, Gattorno M, et al. Anti-interleukin-1 agents for pericarditis: a primer for cardiologists. Eur Heart J. 2022;43(31):2946-2957
3. Carta S, Semino C, Sitia R, Rubartelli A. Dysregulated IL-1 beta Secretion in Autoinflammatory Diseases: A Matter of Stress?. Front Immunol. 2017;8:345
4. Kaneko N, Kurata M, Yamamoto T, Morikawa S, Masumoto J. The role of interleukin-1 in general pathology. Inflamm Regen. 2019;39:12

Performance

Method Description

Testing for interleukin-1 beta levels is performed using a laboratory-developed bead-based immunoassay.(Unpublished Mayo method)

PDF Report

No

Day(s) Performed

Tuesday

Report Available

2 to 8 days

Specimen Retention Time

14 days

Performing Laboratory Location

Mayo Clinic Laboratories - Rochester Superior Drive

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

83520

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
IL1B	IL-1 Beta, P	13629-1

Result ID	Test Result Name	Result LOINC® Value
622327	IL-1 beta	13629-1