Test Definition: SASP

Aspergillus fumigatus, IgG Antibodies, Serum

Overview

Useful For

Evaluation of patients suspected of having hypersensitivity pneumonitis (HP) induced by exposure to *Aspergillus fumigatus*

Evaluation of patients suspected of having HP who have documented environmental exposures to high-humidity environments

Method Name

Fluorescence Enzyme Immunoassay (FEIA)

NY State Available

Yes

Specimen

Specimen Type

Serum

Specimen Required

Supplies: Sarstedt Aliquot Tube, 5 mL (T914)
Collection Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Submission Container/Tube: Plastic vial
Specimen Volume: 0.5 mL
Collection Instructions: Centrifuge and aliquot serum into a plastic vial.

Specimen Minimum Volume

0.3 mL

Reject Due To

Gross hemolysis	OK
Gross lipemia	OK
Gross icterus	Reject

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Serum	Refrigerated (preferred)	21 days	
	Frozen	21 days	

Clinical & Interpretive

Clinical Information

Hypersensitivity pneumonitis (HP) is a type of interstitial lung disease caused by an immune-mediated response to inhaled environmental antigens.(1) Patients with HP commonly display symptoms of cough, dyspnea, and midinspiratory squeaks. Patients may present with an acute onset of symptoms (within hours of antigen exposure) or a chronic onset (which may occur over a course of weeks to months). The nature of an individual's disease course will be affected by several factors, including quantity of inhaled antigen, intensity/frequency of exposure, and genetic background. The epidemiology of HP is also challenging to understand, as incidence and prevalence of the disease varies with geographic areas, climate, and local customs. While the immunopathogenesis of HP is not completely understood, it is presumed to involve both type III and type IV hypersensitivity reactions, with the type III reaction characterized by the presence of IgG antibodies specific for the inciting antigen.(2,3)

Clinical practice guidelines for HP include a diagnostic algorithm which focuses on exposure identification, imaging evaluation, and bronchoalveolar lavage/histopathology.(4) In patients with clinical, pathological and imaging results consistent with HP, identification of causative exposure is important, as a significant part of treatment is antigen avoidance. There are many antigens, both organic and inorganic, that have been associated with the development of HP.(2,3) Causative organic antigens include a wide array of bacteria, mycobacteria, fungi, and animal proteins. *Aspergillus fumigatus* is a fungus found in locations with high humidity, including soil, greenhouses, and compost heaps. It is ubiquitous and may even be found in household dust. In patients diagnosed with HP, evaluation for antigen-specific IgG antibodies, in conjunction with known environmental exposures, can help to document the causative exposure for an individual. However, IgG testing is only useful as supportive information for the diagnosis of HP; a positive result only indicates sensitization to the antigen and a negative result does not exclude the possibility that a patient with HP may be sensitized to another antigen.

Reference Values

<4 years: Not established
> or =4 years: < or =102 mg/L

Interpretation

Positive results for IgG antibodies to *Aspergillus fumigatus,* in patients with signs and symptoms of hypersensitivity pneumonitis, may be consistent with sensitization to this fungus.

Cautions

Positive results for IgG antibodies to *Aspergillus fumigatus* may be found in sera from healthy individuals who are sensitized to this fungus but do not display symptoms consistent with hypersensitivity pneumonitis (HP).

Negative results for IgG antibodies to *A fumigatus* do not exclude HP as a diagnosis; patients with clinical symptoms consistent with HP may be sensitized to a different antigen.

Positive results for IgG antibodies to *A fumigatus* can also occur in patients with invasive aspergillosis and cavitary lung disease.

Clinical Reference

1. Sforza GG, Marinou A. Hypersensitivity pneumonitis: a complex lung disease. Clin Mol Allergy. 2017;15(6). doi:10.1186/s12948-017-0062-7
2. Barnes H, Troy L, Lee CT. Hypersensitivity pneumonitis: Current concepts in pathogenesis, diagnosis, and treatment. Allergy. 2022;77(2):442-453
3. Costabel U, Miyazaki Y, Pardo A, et al. Hypersensitivity pneumonitis. Nat Rev Dis Primers. 2020;6(1):65. doi:10.1038/s41572-020-0191-z
4. Raghu G, Remy-Jardin M, Ryerson CJ, et al. Diagnosis of hypersensitivity pneumonitis in adults. An Official ATS/JRS/ALAT Clinical Practice Guideline. Am J Respir Crit Care Med. 2020;202(3):e36-e69. doi:10.1164/rccm.202005-2032ST

Performance

Method Description

Testing for IgG antibodies to Aspergillus fumigatus is performed using a laboratory-developed immunoassay.(Unpublished Mayo method)

PDF Report

No

Day(s) Performed

Monday through Friday

Report Available

2 to 4 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.

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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

86001

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
SASP	Aspergillus fumigatus, IgG Ab, S	26954-8

Result ID	Test Result Name	Result LOINC® Value
SASP	Aspergillus fumigatus, IgG Ab, S	26954-8