Test Definition: BRAZR

Brazil Nut, IgE with Reflex to Brazil Nut Component, IgE, Serum

Overview

Useful For

Evaluation of patients with suspected Brazil nut allergy

Reflex Tests

Test Id	Reporting Name	Available Separately	Always Performed
BRAZX	Brazil Nut Component, IgE, S	No	No

Testing Algorithm

Testing begins with analysis of Brazil nut-specific total IgE. If the Brazil nut-specific total IgE result is negative (<0.10 kU/L), testing is complete.

If the Brazil nut-specific total IgE result is 0.10 kU/L or more, then the Brazil nut component (Ber e 1) test will be performed at an additional charge.

Special Instructions

- Allergens - Immunoglobulin E (IgE) Antibodies

Highlights

The determination of the relative amount of IgE antibody to total Brazil nut, and IgE antibodies to the specific Brazil nut component, may aid in assessment of the potential strength and type of allergenic response to Brazil nut.

IgE antibody to total Brazil nut will be initially tested.

If detectable total Brazil nut IgE antibody is present, an additional specific component to the Brazil nut allergen antibody testing will be performed. This is comprised of testing for IgE antibodies to the potential allergen Ber e 1.

Method Name

Fluorescent Enzyme Immunoassay (FEIA)

NY State Available

Yes

Specimen

Specimen Type

Serum

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Brazil Nut, IgE with Reflex to Brazil Nut Component, IgE, Serum

Ordering Guidance

For a listing of allergens available for testing, see Allergens - Immunoglobulin E (IgE) Antibodies.

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: 0.6 mL Serum
Collection Instructions: Centrifuge and aliquot serum into a plastic vial.

Forms

If not ordering electronically, complete, print, and send an Allergen Test Request (T236) with the specimen.

Specimen Minimum Volume

Serum: 0.4 mL

Reject Due To

Gross hemolysis	OK
Gross lipemia	OK
Gross icterus	OK

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Serum	Refrigerated (preferred)	14 days	
	Frozen	90 days	

Clinical & Interpretive

Clinical Information

Allergies to tree nuts are relatively prevalent and can result in severe reactions. The main culprits in tree nut allergies include walnut, almond, pistachio, cashew, pecan, hazelnut, macadamia, Brazil nut, and pine nuts. Tree nut allergy often appears in young children and estimates of prevalence range from 0.1% to greater than 5% of the population, dependent on geographical region.

In the case of nut-induced allergic reactions, as with many other foods, symptoms usually present within minutes of ingestion. Over 80% of reactions to tree nuts involve allergy related respiratory symptoms. Tree nut allergies are one of the most dangerous types of allergic reaction with 20% to 40% of cases of related anaphylaxis, and 70% to 90% of fatalities attributable to nut exposure (including peanut exposure).

Allergy to Brazil nut has reported within the United States population. Among those suffering from tree-nut-allergic individuals, the prevalence of Brazil nut allergy is estimated to be 10% to 20%. Brazil nut allergy occurs primarily through oral ingestion. Following oral exposure, allergy may be associated with systemic reactions, including respiratory and urticaria, occasionally resulting in anaphylaxis.

Ber e 1 is an abundant, heat and digestion resistant, storage protein component that is associated with systemic reactions to Brazil nuts. This major allergen component has been found to correlate with allergic symptoms. Exposure of the Ber e 1 at 100 degrees C for 20 minutes did not reduce the potential allergenicity of the molecule.

Immunological cross-reactivity has been reported between Brazil nut, hazelnut, cashew, pistachio, and almond, although cross reactivity with walnut, peanut, and coconut has also been reported. There is considerable homology between the 2S albumin of Brazil nut (Ber e 1) and other plant species, such as cottonseed, sunflower, rapeseed, castor bean, and sesame. Positive antibodies to total Brazil nuts may occur in cases of allergy to other Brazil nut storage proteins, profilins, or in the presence of cross-reacting carbohydrate determinants.

Reference Values

Class	IgE kU/L	Interpretation
0	<0.10	Negative
0/1	0.10-0.34	Borderline/Equivocal
1	0.35-0.69	Equivocal
2	0.70-3.49	Positive
3	3.50-17.4	Positive
4	17.5-49.9	Strongly positive
5	50.0-99.9	Strongly positive
6	> or =100	Strongly positive

Concentrations of 0.70 kU/L or more (class 2 and above) will flag as abnormally high.
Reference values apply to all ages.

Interpretation

When detectable total Brazil nut IgE antibody is present (> or =0.10 IgE kUa/L), additional specific component IgE antibody testing will be performed. If a potential specific allergenic Brazil nut component IgE is detectable (> or =0.10 IgE kUa/L), an interpretive report will be provided.

When the sample is negative for total Brazil nut IgE antibody (<0.10 IgE kUa/L), further testing for specific Brazil nut component IgE antibodies will not be performed. A negative IgE result for total Brazil nut antibody may indicate a lack of sensitization to the potential Brazil nut allergenic component.

Cautions

Clinical correlation of results from in vitro IgE testing with patient history of allergic or anaphylactic responses to Brazil nuts is recommended.

Negative results for IgE antibodies against Brazil nut extract or allergenic components do not completely exclude the

possibility of clinically relevant allergic responses upon exposure.

Positive results for IgE to Brazil nuts or any potential Brazil nut allergenic components are not diagnostic for allergy and only indicate patient may be sensitized to Brazil nuts or a cross-reactive allergen.

Testing for IgE antibodies may not be useful in patients previously treated with immunotherapy to determine if residual clinical sensitivity exists or in patients whose medical management does not depend upon the identification of allergen specificity.

False-positive results for IgE antibodies may occur in patients with markedly elevated serum IgE (>2500 kU/L) due to nonspecific binding to allergen solid phases.

Cross-reacting carbohydrate determinants may also result in positive total Brazil nut-specific IgE testing.

Clinical Reference

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Performance

Method Description
Specific IgE from the patient's serum reacts with the allergen of interest, which is covalently coupled to an ImmunoCAP. After washing away nonspecific IgE, enzyme-labeled anti-IgE antibody is added to form a complex. After incubation, unbound anti-IgE is washed away, and the bound complex is then incubated with a developing agent. After stopping the reaction, the fluorescence of the eluate is measured. Fluorescence is proportional to the amount of specific IgE present in the patient's sample (ie, the higher the fluorescence value, the more IgE antibody is present).(Package insert: ImmunoCAP System Specific IgE FEIA. Phadia; Rev 06/2020)

PDF Report
No

Day(s) Performed
Monday through Friday

Report Available
Same day/1 to 3 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 has been cleared, approved, or is exempt by the US Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

Test Definition: BRAZR

Brazil Nut, IgE with Reflex to Brazil Nut Component, IgE, Serum

CPT Code Information

86003

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
BRAZR	Brazil Nut Component Reflex, S	6050-9

Result ID	Test Result Name	Result LOINC® Value
BRAZ1	Brazil Nut, IgE, S	6050-9