

Provider: Sample Report
Patient:
Accession #:
Collected:

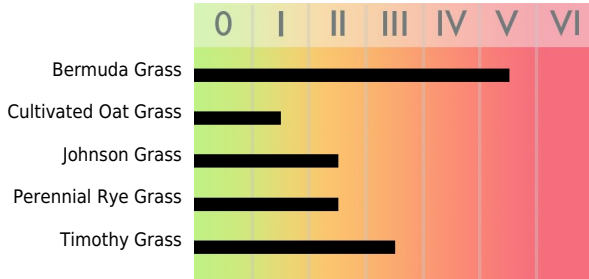
Sex:
Age:
Received:

External ID:
Sample Type: DBS
Date of Birth:
Completed:

 IgE XXXXXXXXXX

CLIA #: 50D0965661
 CAP accredited

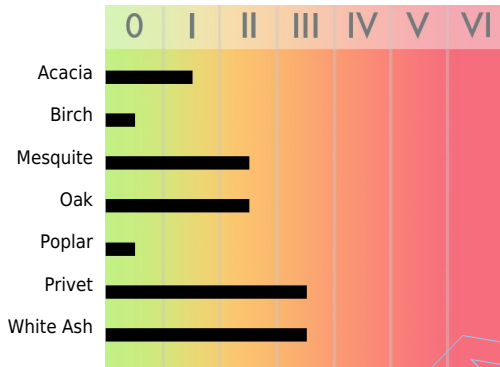
Grasses



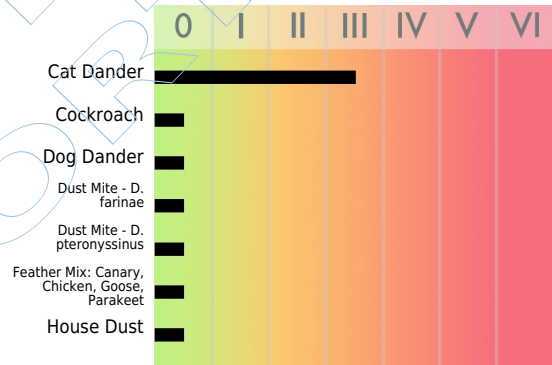
Weeds



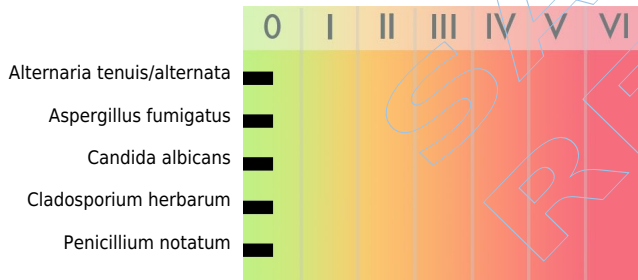
Trees



Miscellaneous



Molds



CCD Marker



Test Method: Immunoassay (ELISA). This test was developed by EUROIMMUN (Subsidiary of Perkin Elmer). Its performance characteristics were determined by US BioTek Laboratories, LLC. This test has not been cleared or approved by the US Food and Drug Administration (FDA). IgE test results should be used in conjunction with other relevant clinical information by healthcare providers to diagnose IgE-mediated allergic disorders.

0	I	II	III	IV	V	VI
Absent or Not Detectable	Very Low	Low	Moderate	High	Very High	Very High

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Higher levels of IgE have been associated with increased allergic reactivity. However, higher levels of IgE may or may not present with expected symptoms of allergy if there are also higher levels of IgG4 for the same antigen. IgG4 is considered an IgE "blocking antibody", and a rise in IgG4 levels has been associated with successful desensitization therapy in human studies. IgG4 testing may further guide clinical patient management.

Carbohydrate cross-determinants (CCDs) may confound IgE and IgG results. CCDs are glycoprotein side-chains found primarily in plants and insects, and they are strongly cross-reactive to other similar plant and insect antigens. IgE antibodies can form against CCDs but have not been documented to contribute to allergic reactions in humans. A biomarker for CCD interference has been included on this test; if the CCD marker for the class is > 0, then CCDs may be confounding results.

CCD confounding generally raises the reaction class of plant-based antigens (most/all high), while animal-based antigens react as expected (mix of lows and highs). If CCD confounding is suspected, consider ordering the Anti-CCD absorbant follow-up test, which can bind the CCDs in the serum so that clinically relevant IgE reactivity can be evaluated.

References:

Altmann F. Coping with cross-reactive carbohydrate determinants in allergy diagnosis. *Allergo J Int.* 2016;25(4):98-105.

Bianchini R, Karagiannis SN, Jordakieva G, Jensen-Jarolim E. The Role of IgG4 in the Fine Tuning of Tolerance in IgE-Mediated Allergy and Cancer. *Int J Mol Sci.* 2020 Jul 16;21(14):5017.

Celik-Bilgili S, Mehl A, Verstege A, Staden U, Nocon M, Beyer K, Niggemann B. The predictive value of specific immunoglobulin E levels in serum for the outcome of oral food challenges. *Clin Exp Allergy.* 2005 Mar;35(3):268-73.

Jin C, Hantusch B, Hemmer W, Stadlmann J, Altmann F. Affinity of IgE and IgG against cross-reactive carbohydrate determinants on plant and insect glycoproteins. *J Allergy Clin Immunol.* 2008 Jan;121(1):185-190.e2.

Stylianou E, Ueland T, Borchsenius F, Michelsen AE, Øvstebø R, Mollnes TE, Skjøsberg OH, Aukrust P. Specific allergen immunotherapy: effect on IgE, IgG4 and chemokines in patients with allergic rhinitis. *Scand J Clin Lab Invest.* 2016;76(2):118-27

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