

# Allergic hypersensitivity



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Allergic hypersensitivity is an adverse exaggerated immune reaction to a protein (or allergen) in our environment which is normally harmless to the non-allergic person.



Allergy develops after repeated exposure to the causative allergen and you don't usually react on first exposure.



Sensitisation takes place on initial exposure (a process that may take up to 6 weeks to develop) and no adverse reaction appears to occur during this sensitisation.



Babies may be sensitised through their skin by their carers handling them after touching certain foods and through their respiratory system by breathing in Aero Allergens.



Some time later on repeated allergen exposure, the full-blown allergic reaction will occur.

The tendency for some people to develop allergic sensitisation is termed Atopy

## Common allergens



Food



Pollen & Grass



Dust Mite



Animal Dander



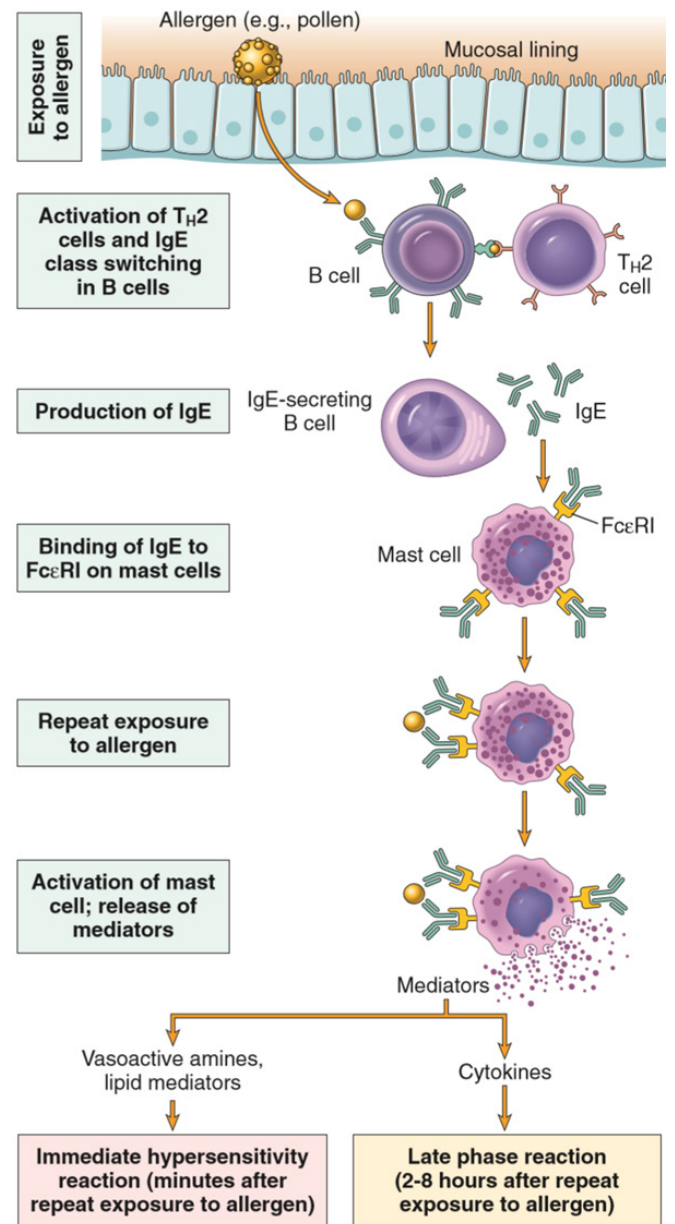
Fungus/ Mould



Cockroach

Allergy is a Type I reaction (ie., immediate hypersensitivity reaction) involving immunoglobulin E (IgE)-mediated release of histamine and other mediators from mast cells and basophils

## Pathogenesis of Type I hypersensitivity reaction



# What is ImmunoCAP Specific IgE blood test?

A laboratory test to identify what allergen is causing allergy like symptoms.

## Clinical Performance\* of ImmunoCAP Specific IgE Testing

Sensitivity  
84-95%

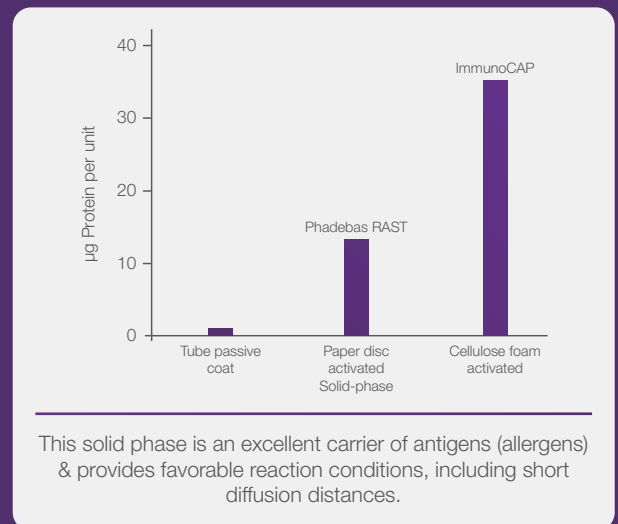
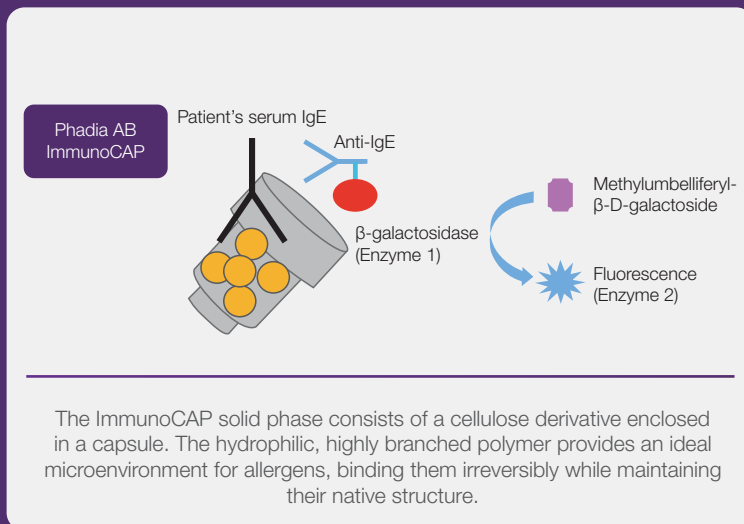
Specificity  
85-94%

## What does the test measure?

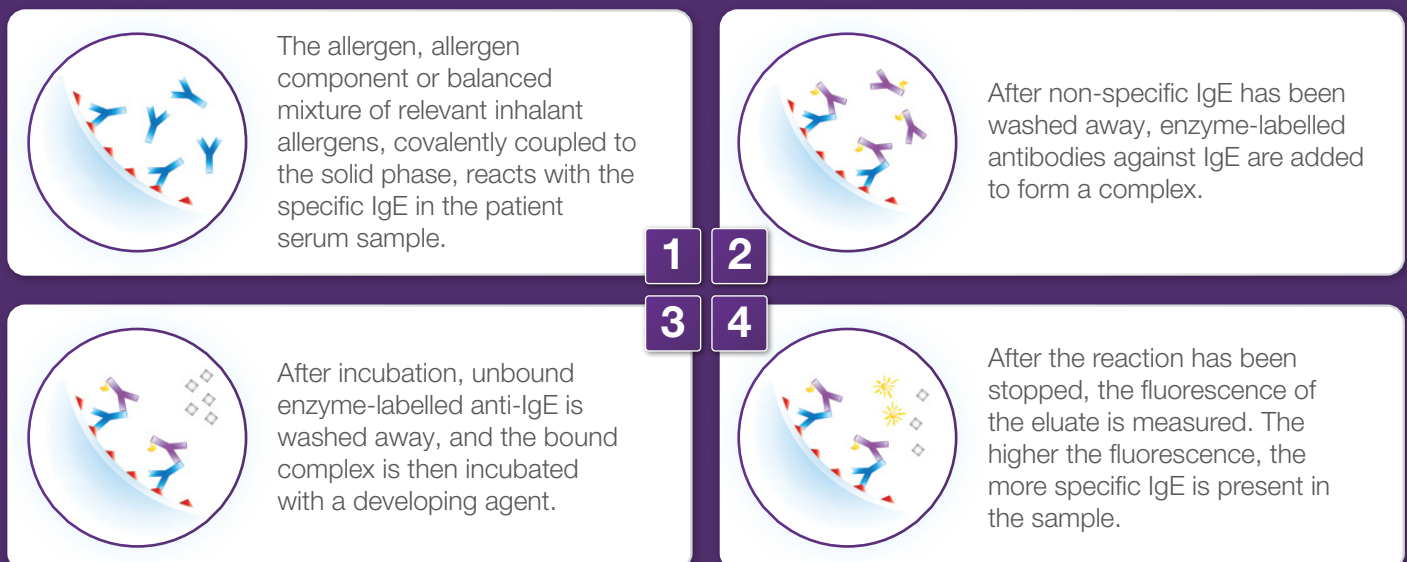
This in vitro quantitative assay measures allergen specific IgE in human serum. It is intended for in vitro diagnosis use as an aid in the clinical diagnosis of IgE mediated allergic disorders in conjunction with other clinical findings. ImmunoCAP assays can be performed on hundreds of allergens such as weeds, trees, pollens, mold, food, and animal dander.

## ImmunoCAP test principle

The technology is based on an extremely high total binding capacity, achieved through a high binding capacity per mg cellulose combined with an optimal quantity of cellulose in each solid phase. This ensures binding of all relevant antibodies, regardless of antibody affinity, while still giving low non-specific binding.



## The test is designed as a sandwich immunoassay

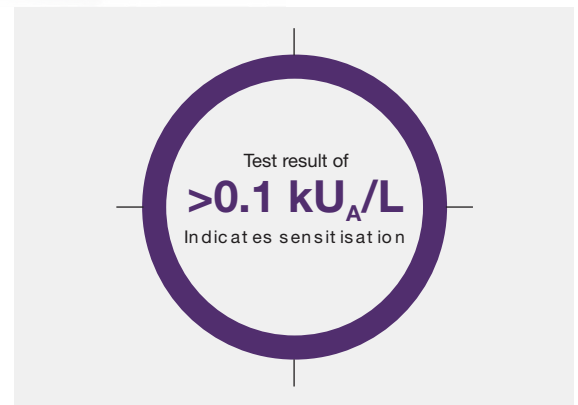
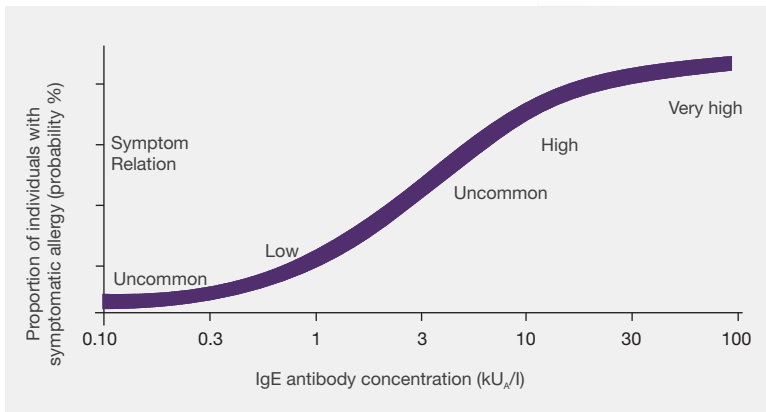


Understand how





## Test interpretation



The higher the concentration of sIgE antibodies, the higher the risk for symptomatic allergy

## There are many benefits to getting a specific IgE test



**Reliable**  
Consistently gives accurate results



**Easy & Accessible**  
A blood test is quick and simple and anyone at any age can have a blood test



**Wide range**  
Can measure hundreds of allergens with a single blood sample



**Detailed**  
Detects various levels of allergen sensitization

\*Reported from multi-center studies including several hundred patients tested for a range of different allergens

Find out more at [thermofisher.com/phadia](https://thermofisher.com/phadia)

# NO MORE GUESSING.

## GETTING IT RIGHT THE FIRST TIME, CHOOSE ImmunoCAP™

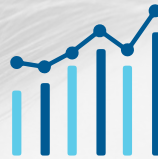
### BE SURE



Clinical agreement of 90% with 89% of sensitivity and 91% of specificity. <sup>[1,2]</sup>



Symptom profiles consist of common allergens in Malaysia



Truly quantitative and measured in Standard International Unit (KU<sub>A</sub>/L) <sup>[3]</sup>



Free from Biotin interference

### BE CONFIDENT



More than 4,000 publications in PubMed



Approved by MDA, FDA and CE for IVD purposes



More than 50 years' experience in allergy blood tests



Recognized as Gold Standard in allergy blood test

### BE SAFE

- No interference with antihistamine and leukotriene (no withdrawal is required)
- No interference with age
- No fasting required

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For more information about ImmunoCAP allergy blood test, please contact



## Do more allergens give better results?

1

According to the Allergy Diagnostic Guidelines published by the ACAAI/AAAAI joint task force report, the selection of allergens for allergy testing should not be ordered randomly but instead be based on symptoms, environmental and occupational exposures, age and other relevant factors. It is vital that allergy blood testing be carried out in this manner to avoid false positive results. <sup>[3]</sup>

## What are the differences between allergy and sensitization?

2

The terms allergy and allergic disease are broadly encompassing and include clinical conditions associated with altered immunologic reactivity that may be either IgE mediated or non-IgE mediated. IgE is a unique class of immunoglobulin that mediates an immediate allergic reaction. Because individuals can develop allergic sensitization (as evidenced by the presence of allergen-specific IgE (sIgE) to food allergens without having clinical symptoms on exposure to those foods, an sIgE-mediated Food Allergy (FA) requires both the presence of sensitization and the development of specific signs and symptoms on exposure to that food. Sensitization alone is not sufficient to define FA. The presence of sIgE reflects allergic sensitization and not necessarily clinical allergy. <sup>[4]</sup>

## What is IgE cross-reactivity and what are the common clinical conditions?

3

Cross-reactivity in allergic reactions occurs when the proteins in one substance are similar to the proteins found in another substance. For example, one may show reactivity in lab testing against apple allergen, but don't suffer from serious clinical symptoms when eating apple. <sup>[5]</sup> Other cases of cross reactivity have been seen between house dust mites and crustaceans and molluscs, between latex and fruits such as banana, avocado, kiwi and pineapple. <sup>[6]</sup>

## How to differentiate IgE cross-reactivity from genuine allergy?

4

Genuine allergy is caused by sensitization to major allergenic proteins of a substance, whereas cross-reactivity is associated with sensitization to minor allergenic proteins presence in different types of substances. Component resolved diagnostics (CRDs) can help differentiate between "true" allergies and cross-reactivity thereby helping doctors make a precise diagnosis.

## Should patients withdraw from antihistamine/allergic foods before testing?

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No, patients do not need to withdraw from any medications such as antihistamines and suspected foods prior to allergy blood testing.

## How to interpret allergy blood test results?

6

Allergy blood test results must be interpreted in tandem with the patient's clinical history and physical examination. ImmunoCAP sIgE results of 0.1 kUA/L and above indicates a risk for sensitization and this result should be correlated with the patient's clinical picture by the physician in order to make a precise diagnosis of allergy.

## What should I do if the allergy testing result contradicts with clinical history?

7

It is important to revisit the clinical history and physical examination to ensure the correct allergens have been chosen for testing for that patient. A patient has to be exposed to a particular allergen in order to be allergic to it. The concept of cross-reactivity and co-sensitization should also be taken into account.

## Is an undetectable IgE level against an allergen relevant?

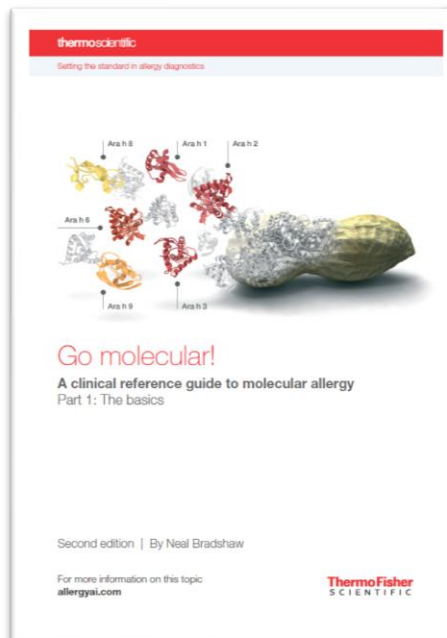
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If undetectable, the results indicate an unlikelihood of sensitization to that allergen. Symptoms are unlikely to be triggered by this allergen, therefore allergen avoidance is unnecessary. This would in turn reduce patients' worries and improves their quality of life.

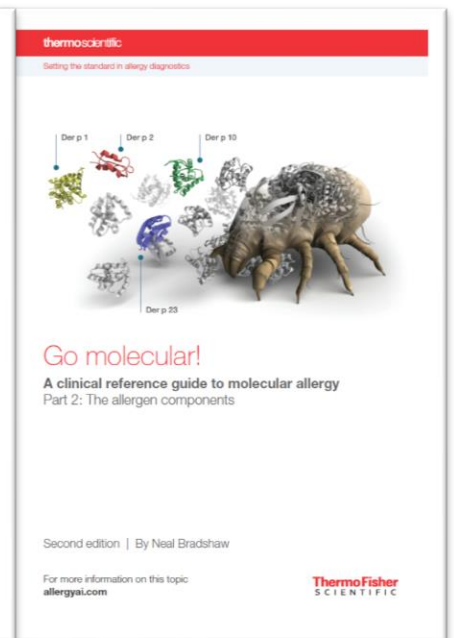
**For more information about ImmunoCAP allergy blood test, please visit:**  
**[www.thermofisher.com/diagnostic-education](http://www.thermofisher.com/diagnostic-education)**



## Product Catalogue



## Go molecular! A clinical reference guide to molecular allergy



## ImmunoCAP allergy blood testing: Why, who and what difference it makes

**Please contact us for any information above!**

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