ASTHMA

ImmunoCAP®
Is it allergy?

Underlying allergies affect asthma

Discover the connection

ImmunoCAP® blood testing helps you identify allergy triggers and develop an exposure reduction plan for improved patient well-being

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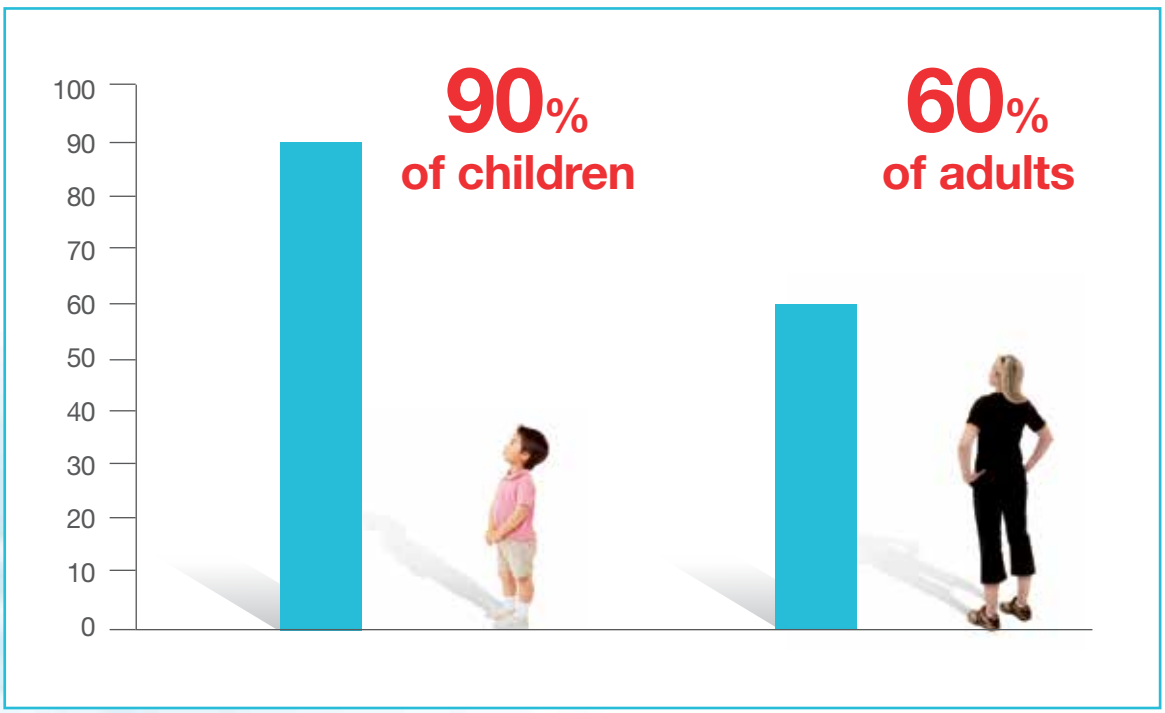
Discover the connection between asthma and allergy

It may be time to go beyond asthma controller therapy

- Up to **2/3 of patients** report that their asthma symptoms are uncontrolled[1,2]

Common triggers that may induce or worsen asthma:

The majority of asthma patients suffer from allergies[3-5]



- Case history alone may overlook relevant inhalant and food allergies

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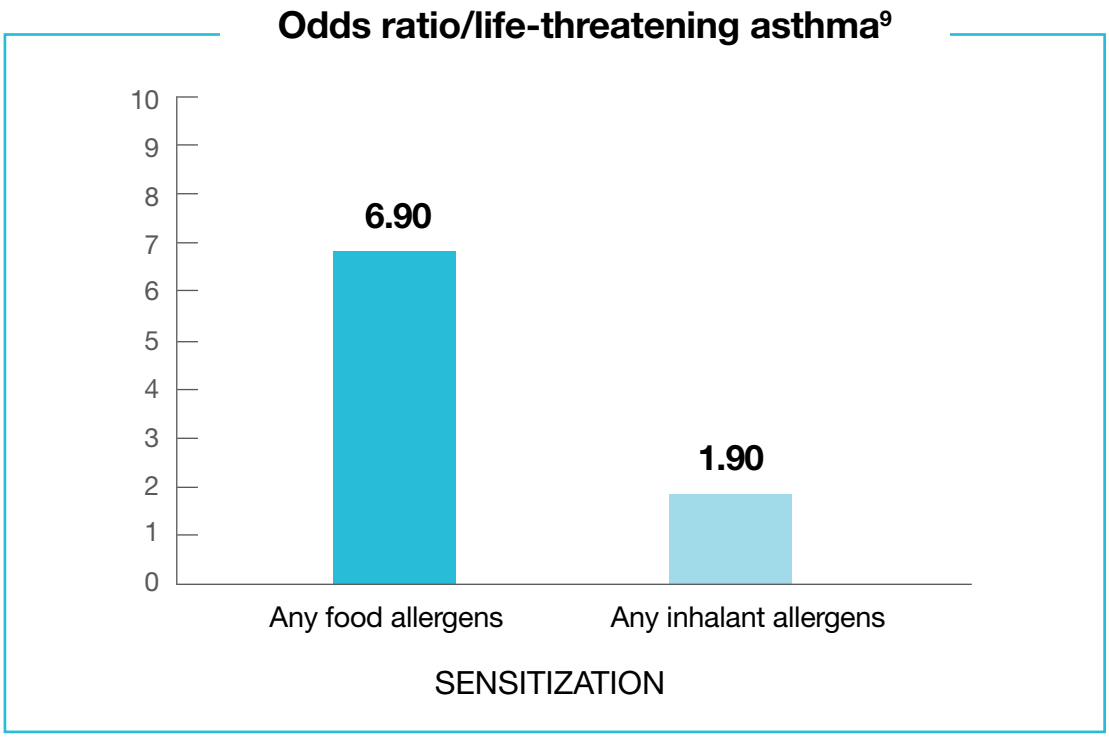
Recognize the risk of allergy in your asthma patients

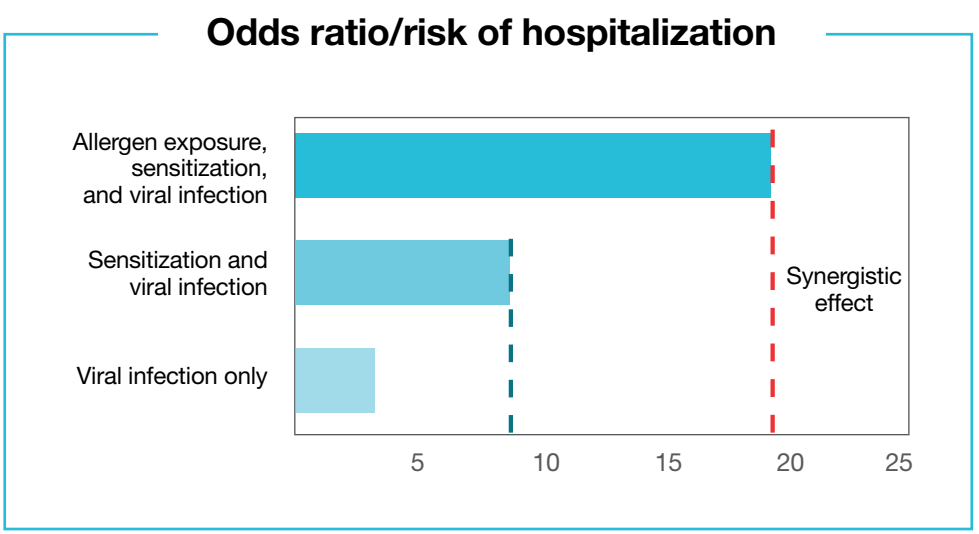
Allergy increases the risk for severe asthma[6-9]



Independent risk factors for life-threatening asthma, from a case-controlled analysis of children ventilated for asthma exacerbation.[9]

- Children with asthma and concomitant food allergy have a **7x higher risk** for life-threatening asthma exacerbations[9,10]

Combination of allergy and viral infections increases the risk for severe asthma[11]



Multivariate analysis of odds ratios (95% CI) for risk factors of hospital admission for acute asthma exacerbation in children ages 3 to 17 years.[11]

- A nearly **20-fold** increased risk for hospitalization in patients with asthma, allergen exposure, and viral infection compared to patients with asthma alone[11]

Identifying triggers early is the key to improved patient management and overall well-being

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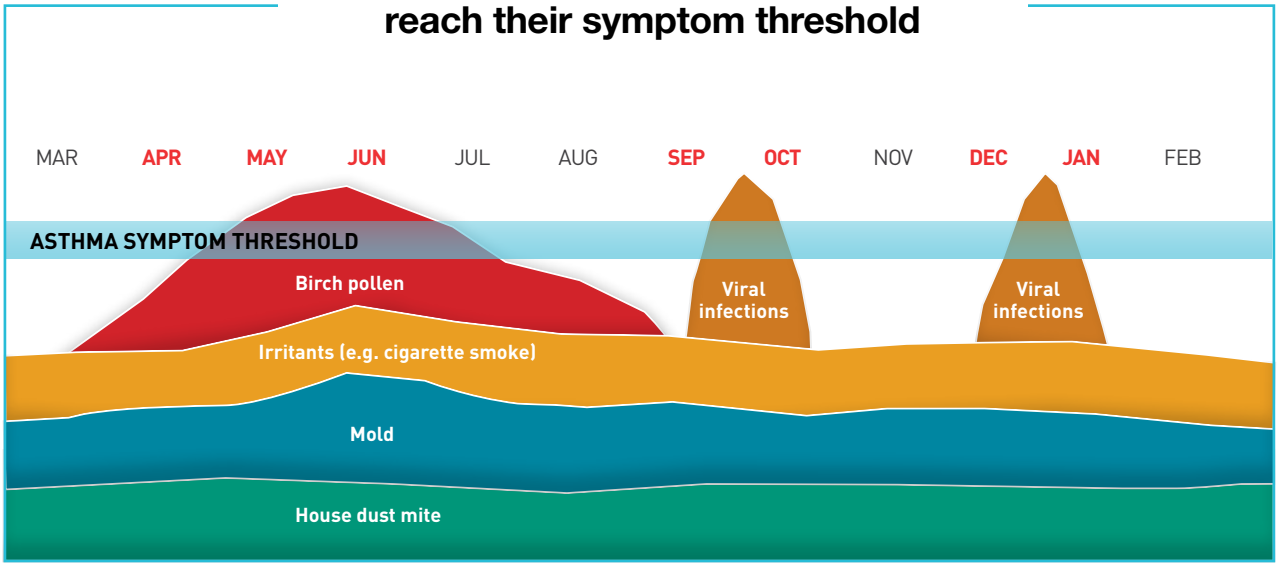
Uncover the benefits of allergen exposure reduction

Identify the allergy triggers that can lead to asthma symptoms

- Inhalant allergens may have additive effects on symptoms[12,13]

Symptoms appear when asthma patients reach their symptom threshold

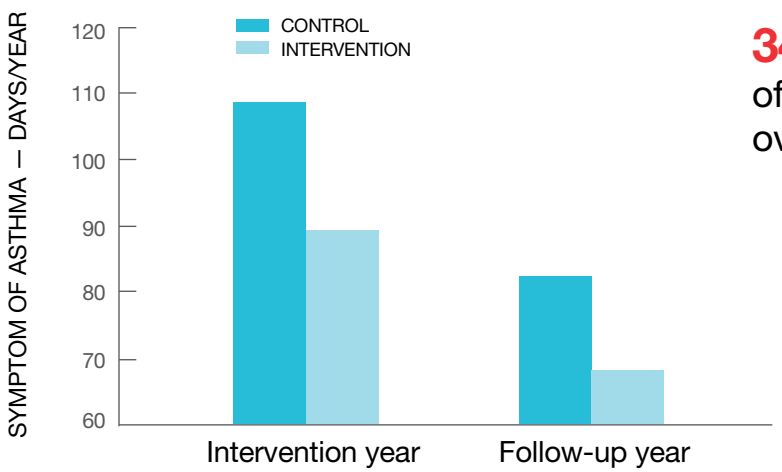


- **Up to 80%** of allergic patients are sensitized to several allergen extracts, on average **3 allergens**[14,15]

Identifying the sensitizing allergens will help you outline an exposure reduction plan to keep patients below symptom threshold

Reducing allergen exposure improves asthma control

Shown to be as effective as ICS* therapy in reducing symptoms[16,17†]



34 fewer days
of wheezing
over 2 years[16,17]

4–5
Fewer missed school days/year[16†]

13%
Fewer emergency room/ clinic visits per year[16†]

>50%
Reduction in ICS* usage in majority of patients[18‡]

* Inhaled corticosteroid therapy.

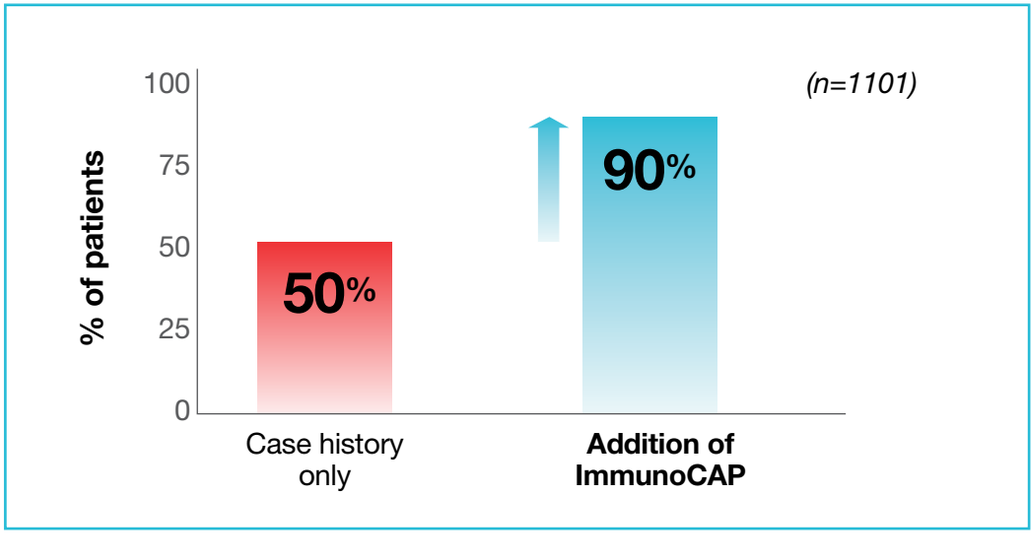
† Education and remediation decreased exposure to indoor allergens, including cockroach and dust-mite allergens, resulting in reduced asthma-associated morbidity. Effect was achieved without worsening symptoms, lung function or increased need for rescue medication.

‡ Reduction was reached in 73% (active treatment group) vs. 24% (control group) at 12 months (p>0,01) using bedding encasements in dust mite allergic patients.

ImmunoCAP plus case history improves diagnostic certainty

Case history alone is not enough to identify allergy triggers

Diagnostic certainty in ruling in or ruling out allergy has been shown to increase when ImmunoCAP Complete Allergen results are added to clinical history[19,20]



Adapted from: Duran-Tauleria E. Allergy 2004; 59 (suppl 78): 35-41. Niggemann B. Pediatr Allergy Immunol. 2008; 19:325-331.

Study among patients with symptoms of eczema, wheezing and/or asthma, and rhinitis in primary care.[19,20]

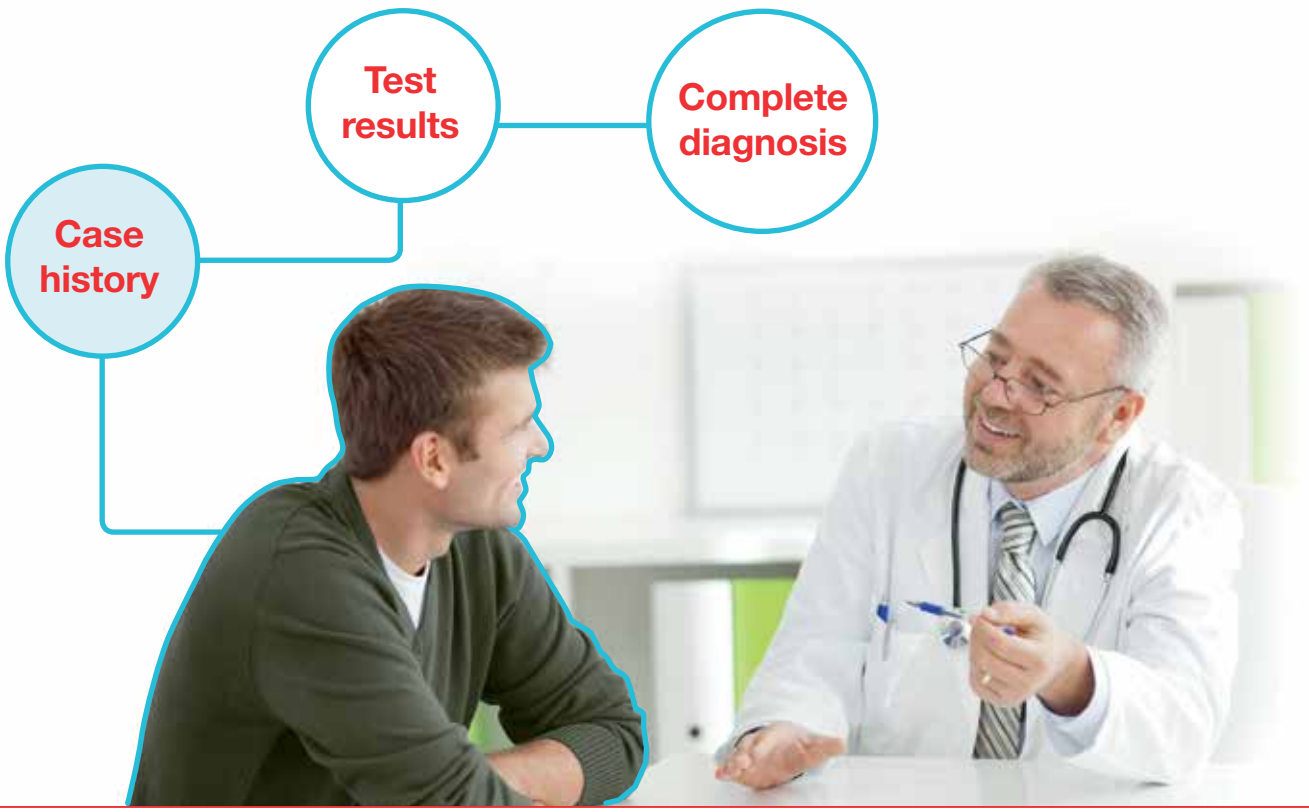
- ImmunoCAP Complete Allergens help rule in or rule out allergy and identify allergy triggers[19-21]

Guidelines recommend IgE testing, such as ImmunoCAP, in addition to clinical history and physical exam for patients with asthma[21-23]

ImmunoCAP testing can easily be performed irrespective of[24-27]:

- Patient age
- Skin condition
- Medication
- Disease activity
- Pregnancy status

No precaution for severe reactions as with skin-prick test (SPT)[23,24]



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ImmunoCAP Complete Allergens

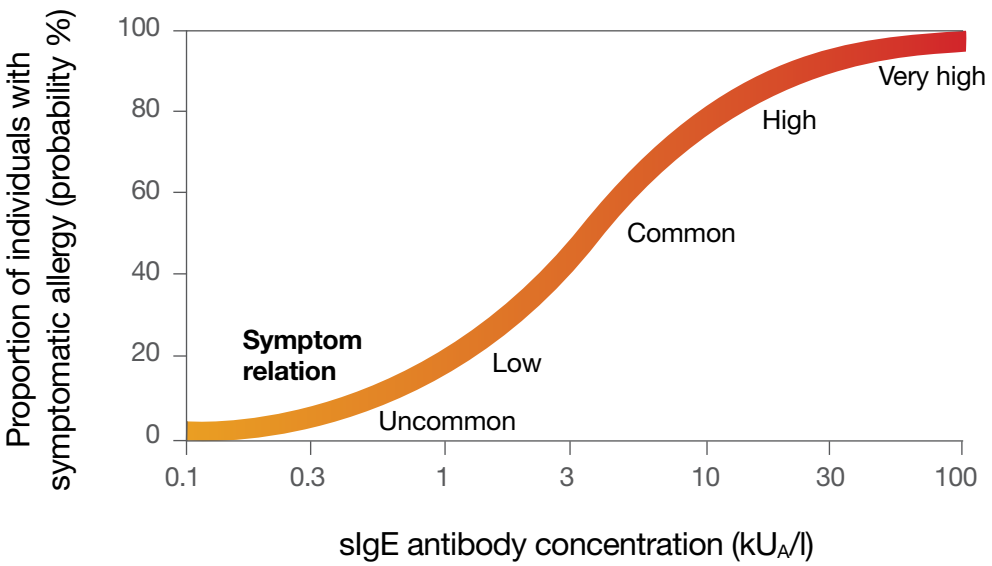
Common inhalant and food allergens in wheezing and/or asthma patients

Wheezing/Child		Asthma/Adult	
g6	Timothy	g6	Timothy
t3	Birch	t3	Birch
t25	Ash	t25	Ash
w6	Mugwort	w1	Ragweed
e1	Cat	w6	Mugwort
e5	Dog	e1	Cat
d1	House dust mite	e5	Dog
f1	Egg white	d1	House dust mite
f2	Cows' milk	m6	*Alternaria*
f13	Peanut	i6	Cockroach

A 1-mL sample of whole blood is sufficient to test for up to 10 different allergens

ImmunoCAP provides true quantitative results for accurate decisions[12,28,29]

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



* Factors to consider for a final diagnosis: Age, degree of atopy, allergen load, type of sensitizing allergens, previous symptoms, other triggering factors. Any reading of ≥0.10 kU_A/l indicates sensitization.

ImmunoCAP is the most extensively studied and widely used IgE blood test available

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ImmunoCAP Allergen Component testing

ImmunoCAP Allergen Components offer a second step for improved diagnosis[30]

Up to 70% of pollen allergic patients suffer from pollen-related food allergies[31]

ImmunoCAP Allergen Components help you distinguish between cross-reactive and specific food sensitization[30]

- Allows you to assess the risk of systemic reactions in patients with allergies to peanuts, tree nuts, and other plant-derived foods[30, 32-34]
- Helps you decrease the need for provocation testing and improve recommendations for allergen avoidance[30]

Clinical history plus ImmunoCAP

Jill, 12 years old—case history:

- Eczema as an infant and toddler
- Egg allergy diagnosed as a young child
- Outgrew both conditions, developed rhinitis at age four
- Diagnosed with asthma at six
- Frequent asthma exacerbations when having a cold
- On inhaled steroids during spring and summer
- Uses bronchodilators during asthma exacerbations

Current situation:

Jill eats a chocolate bar containing peanuts and suddenly experiences urticaria and coughing

Jill's doctor orders ImmunoCAP Complete Allergen tests to get a better understanding of her allergy triggers

ImmunoCAP test results:

Timothy grass	Birch	Cat dander	Dog dander	House dust mite	*Alternaria*	Peanut
20.5 kU_A/l	7.5 kU_A/l	<0.1 kU_A/l	7.4 kU_A/l	5.2 kU_A/l	<0.1 kU_A/l	4.1 kU_A/l

Interpretation and management:

- Jill should avoid peanuts, as they may elicit asthma and other symptoms
- She may need to carry an adrenaline auto-injector
- She should avoid triggers, especially when she has a cold
- She should avoid visiting friends who have a dog
- Pollen exposure can be reduced by drying clothes and bed sheets indoors and minimizing time outdoors during pollen season
- House dust mite exposure can be reduced by controlling indoor climate and using hypoallergenic bedspreads and pillowcases

Outlook:

- With these precautions, Jill's asthma should be kept in better control
- Doctor decides to order ImmunoCAP Allergen Component tests to evaluate if Jill is at risk for a systemic reaction to peanuts

You've discovered the connection

Now consider the benefits of ImmunoCAP

Asthma is a serious condition affected by underlying inhalant and food allergies

- Up to **7x higher risk** for life-threatening asthma than in children with asthma alone[6-10]
- Inhalant allergens add up and may push the patient over the symptom threshold[12-15]

Reducing allergen exposure improves asthma control

- Fewer symptoms, fewer hospital visits, and improved quality of life[16-18]

ImmunoCAP helps you identify allergy triggers

- The most extensively studied and widely used sIgE blood test available
- Increases certainty in diagnosis from **50% to 90%** when added to clinical history[19,20]
- Can easily be performed irrespective of patient's age, skin condition, medication, disease activity, and/or pregnancy status[24-27]

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