

Mike is about to have  
gastrointestinal symptoms,  
and his parents won't know why

Milk

Soy milk

Wheat  
bread

Egg

FOOD ALLERGY

 **ImmunoCAP**<sup>®</sup>  
*Is it allergy?*

Symptoms and **food allergies**

# Discover the connection

**ImmunoCAP<sup>®</sup> Complete Allergens** help you diagnose allergy and prepare  
a management plan for improved patient well-being

**Thermo**  
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# Food allergies: A serious health problem

## Food allergies are among the most common allergic disorders

- The prevalence of food allergies among school-aged children is estimated to be **4%-7%**<sup>1-3</sup>

## Quality of life in food allergic individuals is as low as in patients with diabetes mellitus<sup>4</sup>

### Social isolation

among children due to food restrictions<sup>4</sup>

### Anxiety among children and parents

regarding school attendance and social events<sup>5</sup>

### Avoidance of major foods

can lead to malnutrition, preventing children from thriving<sup>6-7</sup>



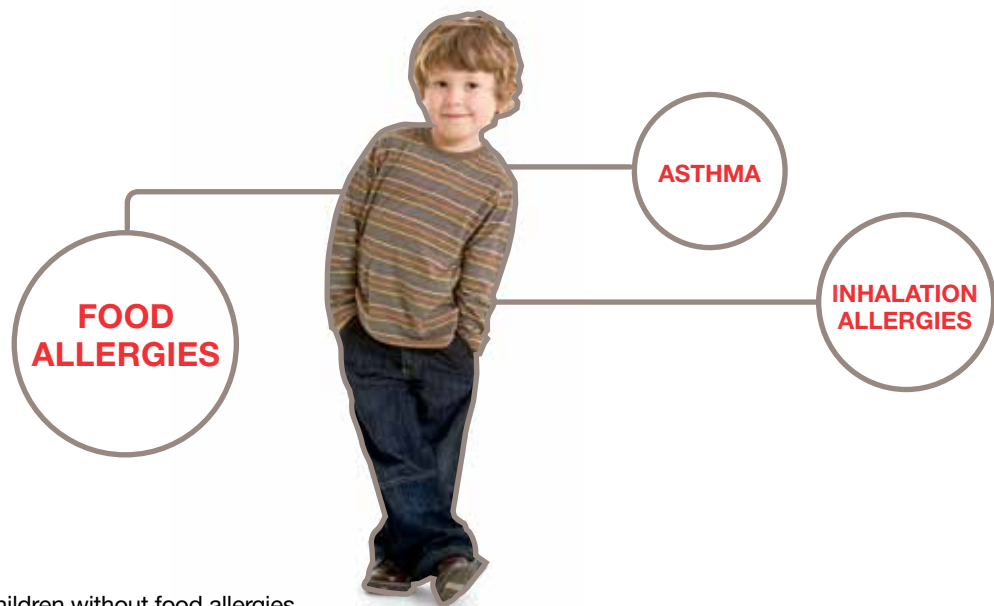
Ruling in or ruling out food allergies early is the key to improved patient management and overall well-being

## Food allergies can result in fatal reactions, especially when patients are asthmatic<sup>8</sup>

- Life-threatening allergic reactions in children, such as anaphylaxis, increased up to **7-fold** in the last decade<sup>9-11</sup>
- Asthmatic patients with concomitant food allergy have a **7-fold-increased risk** for life-threatening asthma exacerbations<sup>12</sup>

## Children with food allergies are at risk for developing other allergic conditions

- Children with food allergies are **2 to 4 times** more likely to have asthma or inhalation allergies<sup>13-16\*</sup>



\* Compared to children without food allergies.

# Evaluate your patient's food allergies now and over time

Similar symptoms—different causes and management

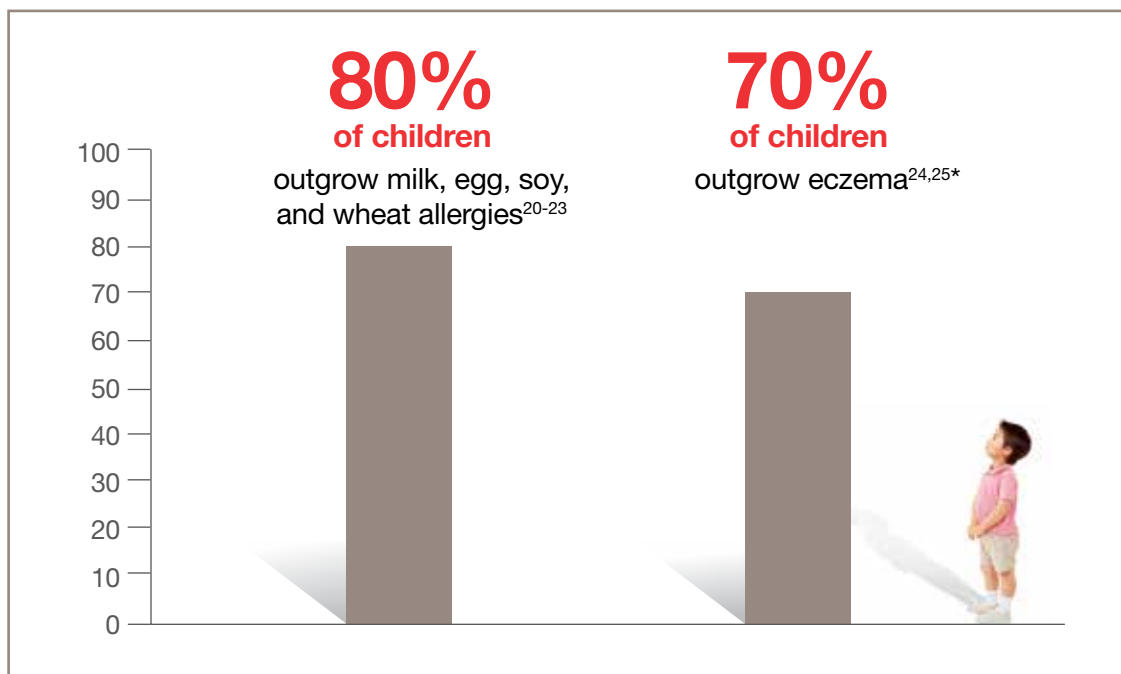


## Is it allergy or not?

- Food allergy is self-reported **6 times** more often than its actual prevalence, causing unnecessary worry and avoidance of food<sup>17</sup>
- Gastrointestinal (GI) symptoms caused by food intolerance, lactose intolerance, celiac disease, or irritable bowel syndrome (IBS) are often confused with food allergy<sup>18,19</sup>

ImmunoCAP Complete Allergens help rule in or rule out food allergies and identify allergy triggers

## Children tend to outgrow their food allergies



\* Up to 70% of children with eczema have an underlying allergy.

## Outgrowing food allergies

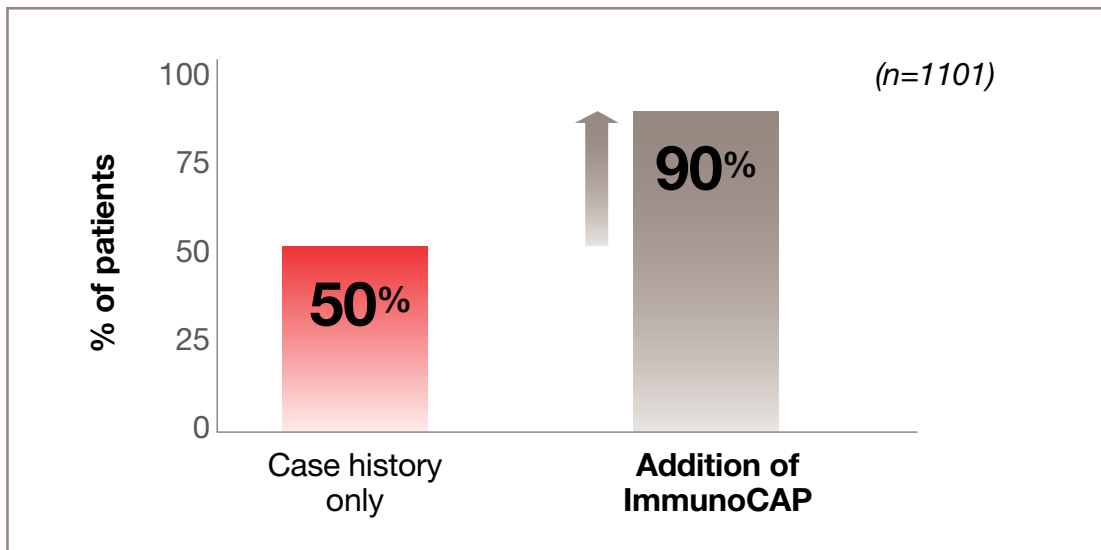
- Following immunoglobulin E (IgE) levels over time helps assess when foods can be reintroduced<sup>26</sup>

Regular retesting with ImmunoCAP helps follow tolerance development of egg, milk, wheat, and soy allergies

# Uncover improved accuracy of your allergy diagnosis

## 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<sup>27,28\*</sup>

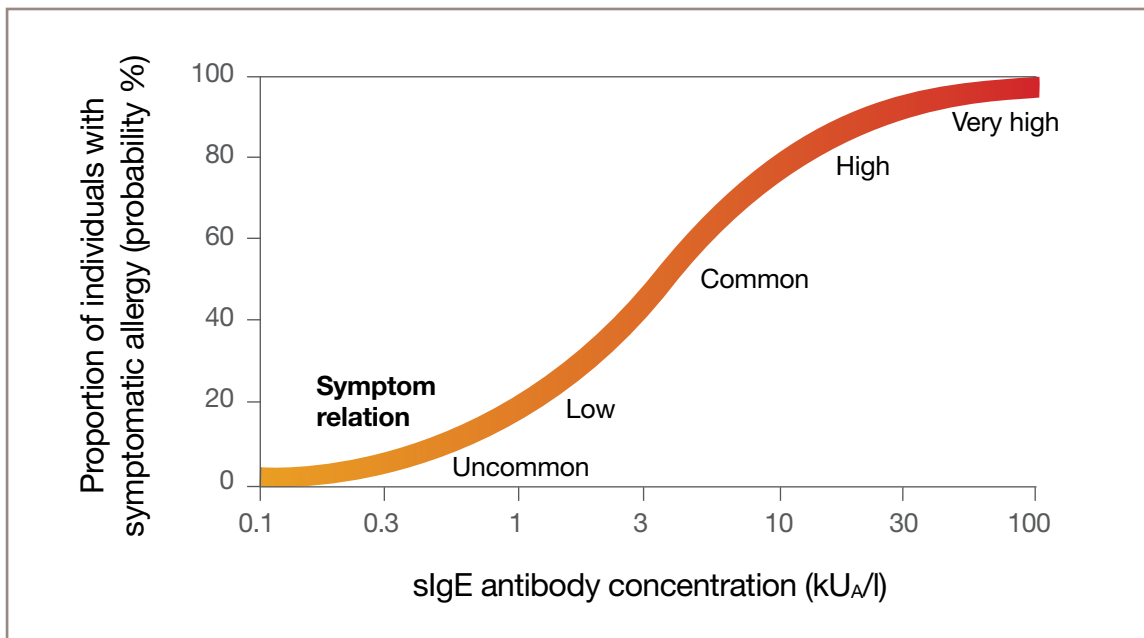


- ImmunoCAP Complete Allergens help rule allergies in or out and identify the allergy triggers<sup>27-29</sup>

\* In patients with symptoms of eczema, wheeze and/or asthma, and rhinitis in primary care.

Guidelines advise that diagnosis should be based on case history in combination with diagnostic testing<sup>30-32</sup>

The higher the level of specific antibodies, the higher the risk for symptomatic allergy<sup>33,34\*</sup>



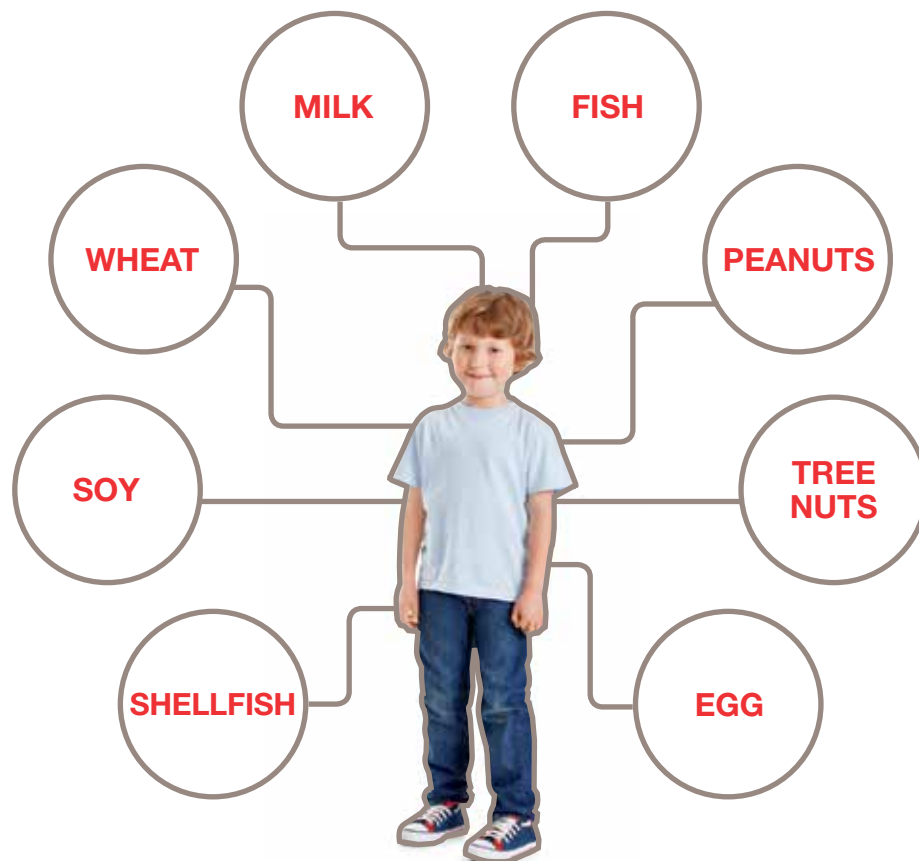
- $\geq 0.10$  kU<sub>A</sub>/l indicate sensitization. In infants, even very low sIgE levels indicate a risk for symptomatic allergy<sup>35-37</sup>
- No precaution for severe reactions as with skin-prick test (SPT)<sup>30,38</sup>

\* Factors to consider for a final diagnosis: age, degree of atopy, allergen load, type of sensitizing allergens, previous symptoms, other triggering factors.

ImmunoCAP testing can easily be performed irrespective of a patient's age, skin condition, medication, disease activity, and/or pregnancy status<sup>38-41</sup>

# Discover the most common food allergies

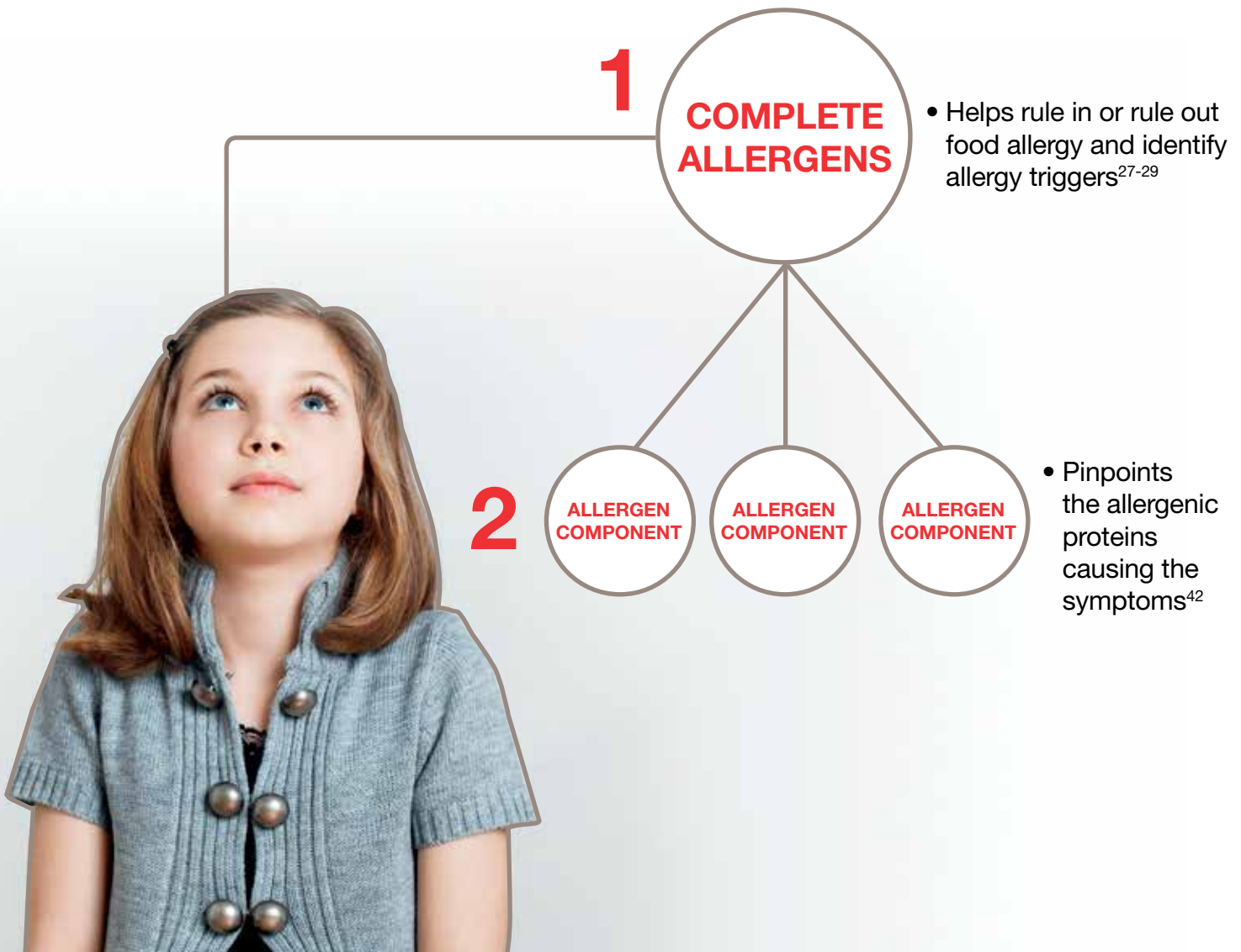
Eight allergens account for 90% of food allergies in children/young people<sup>19</sup>



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



## ImmunoCAP provides a two-step approach to support a comprehensive allergy diagnosis



# Peanut: Assess risk and cross-reactivity

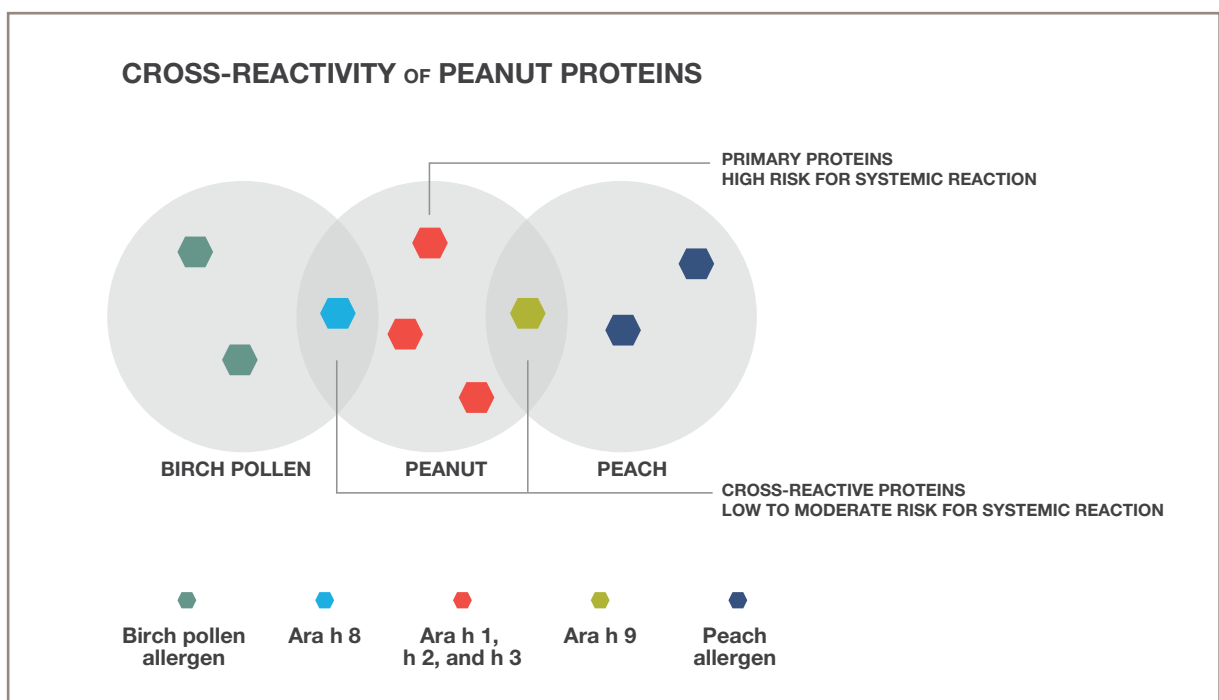
ImmunoCAP Allergen Components help you assess the risk of systemic reactions in patients with allergy to peanut<sup>42</sup>

- Many patients allergic to peanuts may not be at risk for a systemic reaction<sup>43-45</sup>
- Allergen components are proteins associated with different levels of risk<sup>46,47</sup>

Increasing risk for systemic reactions			
PROFILIN	PR-10	LTP	STORAGE PROTEINS
Phl p 12* or Bet v 2* or Pru p 4*	Ara h 8	Ara h 9	Ara h 1 Ara h 2 Ara h 3
<ul style="list-style-type: none"> <li>• Labile to heat and digestion</li> <li>• Low risk for reactions</li> <li>• Highly cross-reactive with pollen and plant foods</li> </ul>	<ul style="list-style-type: none"> <li>• Labile to heat and digestion</li> <li>• Mainly local reactions</li> <li>• Associated with birch pollen allergy (cross-reactivity)</li> </ul>	<ul style="list-style-type: none"> <li>• Stable to heat and digestion</li> <li>• Associated with local and systemic reactions</li> <li>• Associated with allergy to stone fruits (cross-reactivity)</li> </ul>	<ul style="list-style-type: none"> <li>• Stable to heat and digestion</li> <li>• Associated with systemic reactions</li> <li>• Indicates primary sensitization</li> </ul>

\* Surrogate marker for profilin.

## Allergen Components help you distinguish between cross-reactive and specific sensitizations<sup>42</sup>



“Molecular-based allergy diagnostics have emerged into routine care due to its ability to improve risk assessment, particularly for food allergies.”

WAO – ARIA – GA<sup>2</sup>LEN Consensus Paper on Molecular-based Allergy Diagnostics<sup>42</sup>

ImmunoCAP Allergen Components help you decrease the need for provocation testing and improve recommendations for allergen avoidance<sup>42</sup>

# You've discovered the connection Now see the benefits of ImmunoCAP allergy blood testing

## Food allergy: A serious health problem for individuals and society

- Quality of life as low as in patients with diabetes mellitus<sup>4</sup>
- Life-threatening reactions have increased up to **7-fold** the last decade<sup>9-11</sup>

## ImmunoCAP Complete Allergens help identify allergy triggers

- Increases certainty in diagnosis from **50% to 90%** when added to clinical history<sup>27,28</sup>
- Can easily be performed irrespective of patient's age, skin condition, medication, disease activity, and/or pregnancy status<sup>38-41</sup>
- Help you prepare a management plan for improved patient well-being

1. Sicherer SH, et al. *J Allergy Clin Immunol.* 2014;133:291-307. 2. Rona RJ, et al. *J Allergy Clin Immunol.* 2007;120:638-46. 3. Zuidmeer L, et al. *J Allergy Clin Immunol.* 2008;121:1210-8 e4. 4. Flokstra-de Blok BM, et al. *Allergy.* 2010;65:238-44. 5. Avery NJ, et al. *Pediatr Allergy Immunol.* 2003;14:378-82. 6. Christie L, et al. *J Am Diet Assoc.* 2002;102:1648-51. 7. Meyer R, et al. *J Hum Nutr Diet.* 2014;27:227-35. 8. Koplin JJ, et al. *Curr Opin Allergy Clin Immunol.* 2011;11:492-6. 9. Gupta R, et al. *Thorax.* 2007;62:91-6. 10. Liew WK, et al. *J Allergy Clin Immunol.* 2009;123:434-42. 11. Lin RY, et al. *Ann Allergy Asthma Immunol.* 2008;101:387-93. 12. Roberts G, et al. *J Allergy Clin Immunol.* 2003;112:168-74. 13. Tariq SM, et al. *Pediatr Allergy Immunol.* 2000;11:162-7. 14. Schroeder A, et al. *Clin Exp Allergy.* 2009;39:261-70. 15. Liu AH, et al. *J Allergy Clin Immunol.* 2010;126:798-806 e13. 16. Malmberg LP, et al. *Clin Exp Allergy.* 2010;40:1491-7. 17. Nwaru BI, et al. *Allergy.* 2014;69:62-75. 18. Sicherer SH. *Pediatrics.* 2003;111:1609-16. 19. Burks AW, et al. *J Allergy Clin Immunol.* 2012;129:906-20. 20. Savage JH, et al. *J Allergy Clin Immunol.* 2007;120:1413-7. 21. Wood RA, et al. *J Allergy Clin Immunol.* 2013;131:805-12. 22. Keet CA, et al. *Ann Allergy Asthma Immunol.* 2009;102:410-5. 23. Savage JH, et al. *J Allergy Clin Immunol.* 2010;125:683-6. 24. DaVeiga SP. *Allergy Asthma Proc.* 2012;33:227-34. 25. Spergel JM. *Immunol Allergy Clin North Am.* 2010;30:269-80. 26. Wood RA. *Curr Allergy Asthma Rep.* 2012;12:42-7. 27. Adapted from Duran-Tauleria E, et al. *Allergy.* 2004;59 Suppl 78:35-41. 28. Adapted from Niggemann B, et al. *Pediatr Allergy Immunol.* 2008;19:325-31. 29. Eigenmann PA, et al. *Pediatr Allergy Immunol.* 2013;24:195-209. 30. Walsh J, et al. *Br J Gen Pract.* 2011;61:473-5. 31. Muraro A, et al. *Allergy.* 2014;69:1008-25. 32. Boyce JA, et al. *J Allergy Clin Immunol.* 2010;126:S1-58. 33. Soderstrom L, et al. *Allergy.* 2003;58:921-8. 34. Sampson HA. *J Allergy Clin Immunol.* 2001;107:891-6. 35. Host A, et al. *Allergy.* 2003;58:559-69. 36. Komata T, et al. *J Allergy Clin Immunol.* 2007;119:1272-4. 37. Soderstrom L, et al. *Allergy.* 2011;66:1058-64. 38. Siles RI, et al. *Cleve Clin J Med.* 2011;78:585-92. 39. Bonnelykke K, et al. *J Allergy Clin Immunol.* 2008;121:646-51. 40. Belhocine W, et al. *Pediatr Allergy Immunol.* 2011;22:600-7. 41. Bacharier LB, et al. *Allergy.* 2008;63:5-34. 42. Canonica GW, et al. *World Allergy Organ J.* 2013;6:17. 43. Asamoj A, et al. *J Allergy Clin Immunol.* 2012;130:468-72. 44. Asamoj A, et al. *Allergy.* 2010;65:1189-95. 45. Nicolaou N, et al. *J Allergy Clin Immunol.* 2010;125:191-7 e1-13. 46. Vieths S, et al. *Ann N Y Acad Sci.* 2002;964:47-68. 47. Fernandez-Rivas M, et al. *J Allergy Clin Immunol.* 2006;118:481-8.

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