



Setting the Standard

ImmunoCAP™ Specific IgE Wheat Components*

Testing with whole allergen and allergen components provides additional information that can help diagnose allergy more precisely, allowing for a more comprehensive management plan.^{1,4}

Testing with wheat components will help to:¹⁻⁷

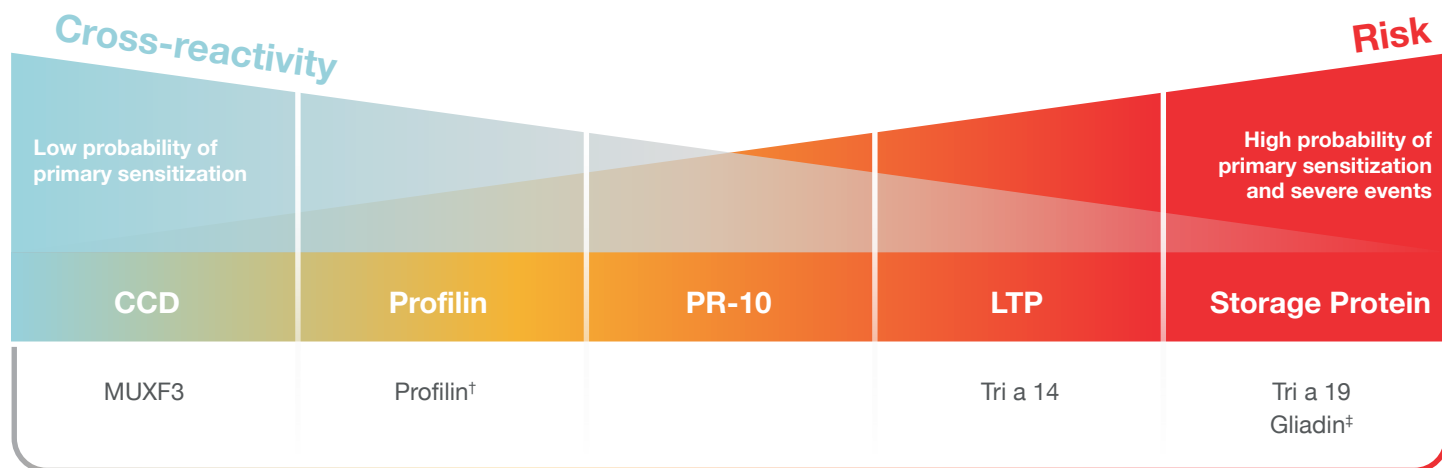
-  Assess risk for systemic allergic reactions
-  Improve diagnosis and management
-  Aid in diagnosis of clinical wheat allergy and exclude cross-reactivity

Did you know?

Grass-allergic individuals often have co-sensitization and cross-reactivity to wheat.^{2-4,6}

Specific immunoglobulin E (sIgE) sensitization to wheat is more common than confirmed wheat allergy and is also frequently observed in grass pollen-allergic patients because wheat is a grass.²⁻⁴

Characteristics of individual proteins^{2-4,6,7}



*Surrogate markers for profilin Phl p 12, Bet v 2 or Pru p 4.

‡Gliadin is purified from a wheat extract and consists of 4 native, highly purified (99%) gliadins: α-, β-, γ- and ω-gliadins (including ω-5 gliadin)



In patients with wheat dependent, exercise-induced anaphylaxis (WDEIA), only 20–30% of the subjects have IgE-mediated sensitization to wheat flour extract. However, 80–90% of these cases demonstrate allergen-specific IgE to Tri a 19 (omega-5 gliadin).^{7,4}

Diagnostic Considerations

Wheat Gliadin Tri a 14 Tri a 19

+/-	+	+/-	-	<p>If clinical symptoms are present with exposure to wheat, consider immediate type wheat allergy. Patient at high risk of severe, systemic reactions.^{4,7} Consider the following:</p> <ul style="list-style-type: none"> Wheat-dependent exercise induced anaphylaxis (WDEIA) likely in Tri a 19-negative patients⁶ Patient likely to react to oral food challenge (OFC)^{2,4-6}
+/-	+/-	+/-	+	<p>If clinical symptoms are present with exposure to wheat, consider immediate type wheat allergy. Patient at high risk of severe, systemic reactions and WDEIA with co-factors present. Consider the following:</p> <ul style="list-style-type: none"> Patient likely to react to OFC^{2,4-6} Usually associated with elevated risk for childhood food allergies, atopic eczema. Allergy is unlikely to be outgrown.⁵
+	-	+		<p>If clinical symptoms are present with exposure to wheat, consider immediate type wheat allergy. Consider the following:</p> <ul style="list-style-type: none"> Systemic and local symptoms such as oral allergy syndrome (OAS) are possible⁴ Patient may be sensitized to other LTPs contained in other plant foods/pollens due to cross-reactions which can cause systemic symptoms^{4,6} Consider bakers allergy and WDEIA with Tri a 14-positive patients^{2,4,6}
+	-	-		<p>If clinical symptoms are present with exposure to wheat, consider the following:</p> <ul style="list-style-type: none"> Further investigation to identify primary allergen by investigating what other allergens patient is exposed to^{2-4,6} Testing for CCD, Profilin (Phl p 12), and regional grasses^{2-4,6,7} OFC with a specialist may be recommended
-	-			<p>If no clinical symptoms are present with exposure to wheat and no detection of sIgE, clinical wheat allergy and severe reactions unlikely. Consider the following:</p> <ul style="list-style-type: none"> OFC with a specialist may be recommended

Note: As in all diagnostic testing, any diagnosis or treatment plan must be made by the clinician based on test results, individual patient history, the clinician's knowledge of the patient, as well as their clinical judgment. Patients can be sensitized to more than one allergen component.

*Official product names of allergen components mentioned within this document: ImmunoCAP Allergen f4, Wheat; ImmunoCAP Allergen f98, Gliadin; ImmunoCAP Allergen f433, Allergen component rTri a 14 LTP, Wheat; ImmunoCAP Allergen f416, Allergen component rTri a 19 Omega-5 Gliadin, Wheat; ImmunoCAP Allergen g212, Allergen component rPhl p 12 Profilin, Timothy; ImmunoCAP Allergen f421, Allergen component rPru p 4 Profilin, Peach; ImmunoCAP Allergen t216, Allergen component rBet v 2 Profilin, Birch

References

- Kleine-Tebbe J, Jappe U. Molecular allergy diagnostic tests: development and relevance in clinical practice. *Allergologie select.* 2017;1 (2):169-1893.
- Ricci G, Andreozzi L, Cipriani F, Giannetti A, Gallucci M, Caffarelli C. Wheat allergy in children: a comprehensive update. *Medicina (Kaunas).* 2019;55(7).
- Nilsson N, Nilsson C, Ekoff H, Wieser-Pahr S, Borres M, Valenta R, Hedlin G, Sjölander S. Grass-Allergic Children Frequently Show Asymptomatic Low-Level IgE Co-Sensitization and Cross-Reactivity to Wheat. *International Archives of Allergy and Immunology.* 2018;177(2):135-144.
- EAACI, et al. Molecular allergology user's guide. *Pediatr Allergy Immunol.* 2016 May;27 Suppl 23:1-250. doi: 10.1111/pai.12563. PMID: 27288833. (213-223 p.) Available from: http://www.eaaci.org/documents/Molecular_Allergology-web.pdf
- Hofmann SC, Fischer J, Eriksson C, Bengtsson Gref O, Biedermann T, Jakob T. IgE detection to $\alpha/\beta/\gamma$ -gliadin and its clinical relevance in wheat-dependent exercise-induced anaphylaxis. *Allergy.* 2012;67(11):1457-60.
- Molecular Allergology User's Guide 2.0 - EAACI Knowledge Hub [Internet]. EAACI Knowledge Hub. 2022 [cited 2022 Jul 14]. Available from: https://hub.eaaci.org/resources_guidelines/molecular-allergology-users-guide-2-0/
- Nilsson N, Sjölander S, Baar A, Berthold M, Pahr S, Vrtala S, Valenta R, Morita E, Hedlin G, Borres M, Nilsson C. Wheat allergy in children evaluated with challenge and IgE antibodies to wheat components. *Pediatric Allergy and Immunology.* 2015;26(2):119-125.

Learn more at thermofisher.com/allergy

thermo scientific