Components improve the diagnosis of wheat allergy

Identify primary wheat sensitizations and exclude cross-reactivity dependent sensitizations:
- Sensitization to wheat-specific components supports a true food-wheat allergy and help rule out clinically irrelevant sensitizations due to cross-reactivity.
- Assess the risk for severe reactions of the wheat allergy:
  - IgE antibodies to Tri a 19 and Gliadin are associated with severe reactions in wheat food allergies.

Improve patient management:
- An aid to rule in IgE mediated wheat allergy as a cause of gastrointestinal symptoms.
- Make a precise assessment
  - IgE antibodies to omega-5 gliadin in the diagnosis of wheat allergy
  - Use components to improve the diagnosis of IgE mediated wheat food allergy

Improve avoidance recommendation:
- A better differentiation helps you give relevant advice and define the optimal treatment

Make a substantiated decision
- Make a difference
- More informed management helps you improve the patient's well-being and quality of the life.

References:
**IgE mediated wheat food allergies**

- Ingested wheat can cause IgE mediated wheat allergies in both children and adults.
- Immediate wheat allergy is mainly seen in children and is commonly outgrown by school age, but remains in a subset and may cause severe reactions.
- In teenagers and adults, IgE mediated allergies may also occur.
- Immediate wheal and flare tests may be used to diagnose immediate wheat allergy.

**Immediate wheat allergy**

Positive test results for any of the available wheat components support a diagnosis of immediate wheat allergy.

- Sensitization to Tri a 14, Tri a 19 and/or Gliadin is associated with allergic reactions to ingested wheat.1,4
- IgE antibodies to Tri a 19 and Gliadin are risk markers for severe reactions.4,5
- Persistent IgE levels to Gliadin and Tri a 19 are associated with slower tolerance development.6

**Grass-dependent positivity to wheat extract tests** can be ruled out using specific wheat components.

- Tri a 14 lacks cross-reactivity to grass pollen allergens.

**Some patients with wheat allergy may react to other cereals such as rye and barley** due to cross-reactivity between gluten proteins (gliadins and glutenins).6,9

**Wheat is an ingredient in processed foods other than bakery products**, for instance in beer which may elicit symptoms in allergic patients.6,9

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**Wheat components improve the diagnosis of wheat food allergies**

<table>
<thead>
<tr>
<th>Available components:</th>
</tr>
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<tbody>
<tr>
<td>Tri a 14, LTP</td>
</tr>
<tr>
<td>Gliadin (α, β, γ and w-gliadins)</td>
</tr>
<tr>
<td>Tri a 19, w-5-gliadin</td>
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</tbody>
</table>

**Wheat dependent exercise induced anaphylaxis**

WDEIA (Wheat dependent exercise induced anaphylaxis) is elicited by exercise or other co-factors such as NSAID drugs, alcohol or stress after wheat intake. WDEIA patients do generally not have a history of immediate wheat allergy, and many (30 – 50 %) are also negative in extract based wheat tests. However, a majority of the WDEIA patients are sensitized to Tri a 19 and/or Gliadin.3,4,7

- Positive test results for Tri a 19 and/or Gliadin support a diagnosis of suspected WDEIA.3,4,7
- Sensitization to LTP may be associated with a risk for co-factor mediated anaphylaxis.8,9

**Immediate Wheat Allergy – Suggested test profile**

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<table>
<thead>
<tr>
<th>Wheat (f4)</th>
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<tbody>
<tr>
<td>Tri a 14 (f433)</td>
</tr>
<tr>
<td>Tri a 19 (f416)</td>
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<tr>
<td>Gliadin (f98)</td>
</tr>
</tbody>
</table>

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<th>ImmunoCAP® COMPLETE ALLERGEN COMPONENTS</th>
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Quick your risk profile for electrophoretic food allergy while Tri a 14 provide higher specificity.
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**Did you know that?**

- Wheat (Triticum aestivum) is a grass, and one of the most common causes of food allergy in children.3
- In addition to IgE mediated wheat allergies, there are other hypersensitivity disorders caused by wheat, e.g. colic diseases and irritable bowel syndrome.3
- There are many allergen components in wheat and most patients are sensitized to several of these.3
- Some grass allergic children can be misdiagnosed as wheat allergic and recommended a wheat-free diet as wheat extract tests often show up positive due to cross-reactivity between wheat and grass components (e.g. profilin and CCD).10
- Grass dependent positivity to wheat extract tests can be ruled out using specific wheat components.
- The LTP Tri a 14 lacks cross-reactivity to grass pollen allergens.
- Some patients with wheat allergy may react to other cereals such as rye and barley due to cross-reactivity between gluten proteins (gliadins and glutenins).9
- Wheat is an ingredient in processed foods other than bakery products, for instance in beer which may elicit symptoms in allergic patients.6,9