Distinguishing between food allergies, sensitivities, and intolerances is crucial for accurate diagnosis and patient care. While these terms are often confused, they are unique conditions.

True food allergies trigger widespread immune responses, sometimes with severe or even life-threatening results. Meanwhile, food intolerance and sensitivity symptoms are generally less serious, but often more difficult to diagnose.

Food Allergies:

Food allergies are **type 1 hypersensitivities**. The immune system flags some food proteins as threats and makes IgE antibodies against them. When these allergies strike, mast cells activate, releasing a flood of histamine. Type 1 allergy symptoms are **acute onset**—symptoms usually show up within an hour and can vary from mild to severe.

Food Sensitivites:

Food sensitivities are non-IgE reactions, falling into type 2, 3, and 4 hypersensitivities. Food proteins bind with antibodies, sparking systemic immune responses. Spotting food sensitivity symptoms can be a challenge as they're often delayed.

Food Intolerances:

Food intolerances don't involve the immune system. They're usually due to a lack of certain proteins or enzymes needed for digestion. Think lactose intolerance: some people don't have enough of the enzyme lactase to break down this sugar.

What is the difference between IgG vs. IgA antibodies?

- **Where They Come From:**
  - IgA is from saliva, tears, and mucosal linings like the lungs, genitourinary tract, and intestinal tract.
  - IgG is everywhere in serum and made by nearly every cell.
- **Key Features of IgA:**
  - Half-life of about 6 days. A rise hints at exposure about a week ago.
  - Mainly made in the gut's lymph tissue.
- **Key Features of IgG:**
  - Has a long half-life, hinting at long exposure or sensitivity.
  - Linked to responses like brain fog and migraines.
- **Food Sensitivities:**
  - Foods can trigger both IgA or IgG reactivity, or both
  - Vibrant Wellness tests classify reactions as:
    - Negative (0-10)
    - Moderate (11-20)
    - Positive (21-30)
  - Most foods provoke an antibody response, which is typically manageable. But if antibodies persist at moderate to high levels, complications arise.
- **Testing Considerations:**
  - Check both IgA and IgG against food antigens.
  - Always consider the baseline levels of total IgA and IgG.
- **Research Insights:**
  - Low Total IgA may lead to reduced secretory IgA (SIgA), increasing the risk of Type 1 food allergies.
  - SIgA and IgA are distinct but related. SIgA is derived from IgA. However, serum total IgA levels don't necessarily predict SIgA levels despite the terms being used interchangeably in the literature.

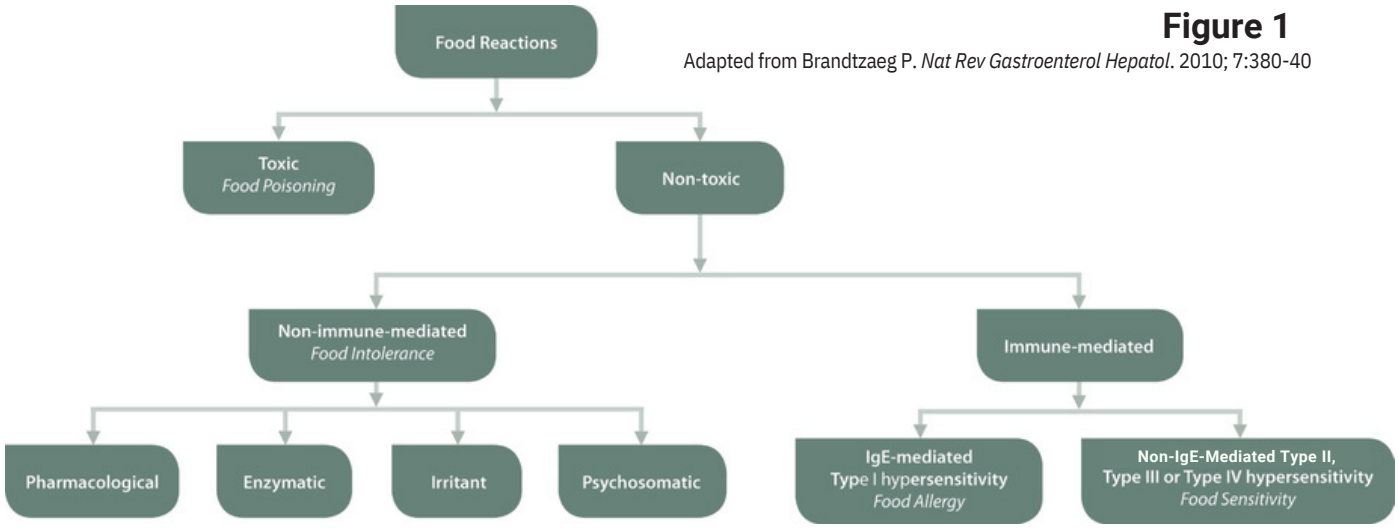


Figure 1

Adapted from Brandtzaeg P. *Nat Rev Gastroenterol Hepatol*. 2010; 7:380-40

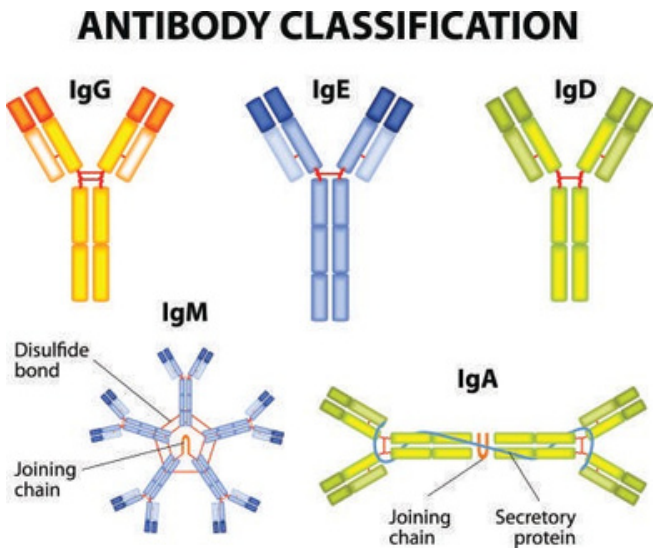
When people refer to food sensitivities as a "loss of oral tolerance," they're referring to the immune system's ability to maintain homeostasis in the presence of foreign food proteins.

Antibodies:

The Vibrant Wellness Food Sensitivity test measures both IgA and IgG antibodies against 96 different food antigens (proteins). These antigens are sourced from raw, organic foods. Unlike other labs, we report IgA and IgG antibodies separately rather than as combined values.

Food Sensitivity Action Steps:

1. Evaluate total immunoglobulins.
2. Check intestinal permeability and dysbiosis. Antibody reactivity to food proteins almost always indicates some level of intestinal permeability, due to mucosal inflammation and low microbial diversity.
3. Use food sensitivity tests to shape an elimination or rotation diet. Taking out foods that trigger antibodies can ease symptoms, but how long you should keep them out varies. Consider the antibody response level, their half-life, the patient's current diet and motivation, gut health, and remission or progression of symptoms.



Distinguishing Food Allergies, Sensitivities, and Intolerances

	IgE	IgG	IgA
Area of Origin	Mast cells	Most body cells	Mucosal tissue (saliva, tears, intestinal mucus, bronchial secretions); 70% of IgA is derived from the gastrointestinal tract.
Antibody Half life	1-3 days	Highly variable 23-96 days	6-8 days
Percentage in Serum	Only 1-2% of immunoglobulins in the blood are IgE	Most abundant immunoglobulin in circulation: ~80% of immunoglobulins in the blood are IgG	~15% of immunoglobulins in circulation are IgA
Mechanism of Action	Mast cell-mediated-releases histamines	Complement system	Phagocytic cells (monocytes and neutrophils)
Type of Reaction	Immediate reaction True allergy Type I hypersensitivity	Delayed reaction Type III hypersensitivity	Delayed reaction Mucosal damage
Symptoms & Symptoms Timeline	Acute reactions typically affecting airways, skin, or intestines: hives, anaphylaxis, rashes, swelling, etc.	Highly variable systemic responses: IgG antibodies can deposit in any tissue and cause inflammation	Signs of mucosal irritation, such as gastrointestinal distress (gas, bloating, stomach distention)

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Revised 10/10/2023