

## CLINICAL SPECIFICATIONS

### QUINOA

**Antigen Made From:**

Whole Quinoa kernel

**Associated With:**

 Anaphylaxis<sup>1</sup>  
 Secondary hyperoxaluria<sup>2</sup>

**Known Cross-Reactions:** Amaranth, Rice, Sunflower;<sup>3</sup> Insulin, Glutamic Acid Decarboxylase-65;<sup>5</sup> Triiodothyronine (T3)<sup>6</sup>

**Clinical Significance:**

The presence of antibodies to Quinoa is an indication of food immune reactivity. The offending food and its known cross-reactive foods should be eliminated from the diet. Quinoa is considered a beneficial food, especially for celiac patients and vegetarians.<sup>4</sup> Quinoa is labeled by the scientific community as a non-allergenic food, however, severe allergic reaction to Quinoa has been reported.<sup>1</sup> If a recently diagnosed gluten-reactive patient exhibits high levels of antibodies to Quinoa, it may be due to the late introduction of Quinoa into the diet.

**References:**

1. Astier et al. First case report of anaphylaxis to quinoa, a novel food in France. *Allergy*, 2009; 64(5):819-820.
2. Jancurová et al. Quinoa – a review. *Czech J Food Sci*, 2009; 27(2):71-79.
3. Aphalo et al. Surface physicochemical properties of globulin-P amaranth protein. *J Agric Food Chem*, 2004; 52:616-622.
4. Lee et al. Anaphylaxis to an Organic Health Food Cereal: Amaranth Allergy. *J Hum Nutr Diet*, 2009, 22:359-363.
5. Kharrazian, et al. Detection of islet cell immune reactivity with low glycemic index foods: is this a concern for type 1 diabetes? *J Diabetes Res*, 2017; 2017:4124967.
6. Kharrazian, et al. Immunological reactivity using monoclonal and polyclonal antibodies of autoimmune thyroid target sites with dietary proteins. *J Thyroid Res*, 2017; 2017:4354723.