

CLINICAL SPECIFICATIONS

ω-GLIADIN-17-MER

Function:

Gliadin is a glycoprotein. It is an alcohol-soluble protein present in wheat and occurring in various forms (α -, β -, and ω -gliadins). ω -Gliadin-17-mer is heat stable, and is soluble only in higher percentages of alcohol and acidic acetonitrile.

Antibodies Appear:

Celiac disease^{1,2}
 Celiac Sprue³
 Exercise-Induced Anaphylaxis⁵
 Gluten sensitivity³
 Wheat allergy⁴

Known Cross-Reactions:

Clinical Significance:

Gliadin contains the toxic peptides associated with Celiac disease (CD).¹ Detection of antibodies to gliadin may indicate abnormal mucosal immune response and intestinal barrier dysfunction. Coupled with Transglutaminase-2 antibodies testing, Gliadin antibody assay results can assist with differentiating CD and non-celiac gluten-sensitivity (NCGS). If both are positive, the patient most likely has CD, which must be confirmed by biopsy. If Gliadin is positive and Transglutaminase negative the patient could be suffering from gluten-reactivity (GR) without enteropathy. If Transglutaminase is positive and Gliadin is negative the patient could be suffering from autoimmunity other than CD and GR. IgE specific to ω -gliadin-17-mer has been found in patients with exercise-induced anaphylaxis.⁵ Patients with collapse and/or anaphylaxis while exercising should consider implementing a gluten-free diet.

References:

1. Camarca, et al. Intestinal T-cell responses to gluten peptides are largely heterogeneous: implications for a peptide-based therapy in celiac disease. *J Immunol*, 2009; 182:4158-4166.
2. Chirido, et al. Analysis of anti-gliadin antibodies by immunoblot analysis and enzyme-linked immuno-assay using gliadin fractions as antigens. *J Pediatric Gastroenterol Nutri*, 1999; 29(2):171-177.
3. Ensari, et al. Studies in vivo of ω -gliadin in gluten sensitivity (coeliac sprue disease). *Clin Sci*, 1998; 95:419-424.
4. Palosuo, et al. Wheat ω -5 gliadin is a major allergen in children with immediate allergy to ingested wheat. *J Allergy Clin Immunol*, 2001; 108(4):634-638.
5. Palosuo, et al. A novel wheat gliadin as a cause of exercise-induced anaphylaxis. *J Allergy Clin Immunol*, 1999; 103(5 Pt 1):912-917.