

# CELIAC DISEASE ANTIBODY PANEL

## SEROLOGIC EVALUATION FOR DIAGNOSIS AND MONITORING OF DISEASE ACTIVITY

### SYNOPSIS

Celiac disease (CD), an inflammatory condition of the small intestine precipitated by the ingestion of wheat, rye, barley and oats, is also referred to as celiac sprue or gluten-sensitive enteropathy. CD typically occurs in genetically susceptible Caucasian individuals. It is estimated that **at least one in 250 individuals in the United States has either active, silent, latent or potential CD**; most cases are undiagnosed or asymptomatic for years. Five to 15 percent of children and siblings of celiacs also have CD. A small bowel biopsy is the gold standard for diagnosis of CD. However, serologic evaluation is useful for screening (especially in first degree relatives of CD patients), supporting a diagnosis of CD or dermatitis herpetiformis (DH), and monitoring response and adherence to a gluten-free diet.

### SUMMARY OF CLINICAL UTILITY

- Serologic screening (especially in first degree relatives of CD patients)
- Monitoring response to a gluten-free diet; antibody titers decrease with adherence
- IgA anti-endomysial antibodies are virtually 100% sensitive and specific for active CD
- IgG anti-gliadin antibodies are highly sensitive, but not specific for CD; IgA anti-gliadin antibodies are more specific, but less sensitive for CD; approximately 2% of CD patients have selective IgA deficiency
- Positive IgG and IgA anti-gliadin antibodies are 96–100% sensitive and 96–97% specific for active untreated CD. IgA anti-reticulin antibodies are 97% sensitive and 98% specific for active CD in adults; sensitivity and specificity are much lower in children
- A combination of IgG anti-gliadin antibodies, IgA anti-gliadin antibodies and IgA anti-endomysial antibodies have positive and negative predictive values of >99% when all three are positive or negative, respectively

### CELIAC DISEASE CATEGORIES

**ACTIVE**– flat or hypoplastic mucosa characterized by villous flattening and crypt elongation or small crypts, high intraepithelial lymphocytes; malabsorption; nutritional deficiencies

**SILENT**– high intraepithelial lymphocytes, some villous flattening and crypt elongation; asymptomatic

**LATENT**– High intraepithelial lymphocytes, normal villus and crypt architecture; dermatitis herpetiformis; no gastrointestinal symptoms, but can become active CD with gluten challenge

**POTENTIAL**– Normal mucosal architecture or high intraepithelial lymphocytes; first-degree relatives of patients with active CD

## **PANEL COMPONENTS**

IgG & IgA anti-gliadin antibodies, IgA anti-endomysial antibodies, IgA anti-reticulin antibodies and Tissue Transglutaminase Ab

**DISORDERS ASSOCIATED WITH CD:** Dermatitis herpetiformis (DH), selective IgA deficiency, insulin-dependent diabetes mellitus, systemic lupus erythematosus, IgA nephropathy, thyroid disease, hyposplenism, primary biliary cirrhosis, sclerosing cholangitis, Sjögren's syndrome, Down's syndrome, chronic active hepatitis, scleroderma, myasthenia gravis, Addison's disease, rheumatoid arthritis

**CHRONIC DISORDERS THAT CAN RESULT FROM UNTREATED CD:** Osteoporosis and other bone diseases, internal hemorrhaging (vitamin K deficiency), peripheral and central nervous system disorders (nutrient deficiencies), pancreatic disease, intestinal lymphomas and other malignancies, lactose intolerance, other food sensitivities

## **SPECIMEN REQUIREMENT**

2 mL serum

## **REFERENCES**

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**For evaluation of your patients with suspected celiac disease, dermatitis herpetiformis, or their first degree relatives, specify “Celiac Disease Antibodies Panel to RDL” and have your laboratory forward 2 mL serum. For client supplies, specimen pick-up or shipping information, please call Client Services at 800/338-1918.**