

Transglutaminase (tTG) IgA ELISA

CELIAC DISEASE

*Quantitative Measurement of
tissue Transglutaminase IgA antibodies*

Anti-transglutaminase: To aid in the diagnosis of intolerance to wheat gliadins and related prolamins

Simple

Microwell Enzyme-based assay (ELISA)

Rapid turnaround

Quantitative

Full calibration curve for quantitative determination

Convenient

Ready to use reagents

Ideally suited for small runs and cost efficiency

Suitable for use as screening test



Statistics:

Until recently, the geographical distribution of Celiac Disease was thought to be primarily in developed countries, but new epidemiological studies have provided evidence that the disorder is common in other parts of the world as well. Its prevalence has been estimated to be from 0.4% to 1% of the world's population.

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INTENDED USE

The Biomerica tissue Transglutaminase IgA ELISA is a simple 1½ hour test for the *in vitro* quantitative determination of tissue Transglutaminase IgA antibodies in human serum. Tissue Transglutaminase (tTG) testing is a simple and inexpensive method to select more efficiently candidates to jejunal biopsy among children or adults clinically suspected of celiac disease.

BACKGROUND

Celiac disease (CD) or gluten-sensitive enteropathy is a chronic disease in which an intestinal mucosal lesion impairs nutrient absorption. While the exact etiology of celiac disease remains unknown, gliadin, the alcohol soluble fraction of wheat gluten, is clearly the toxic agent⁽¹⁾. In a large majority of untreated celiac patients, high concentrations of anti-gliadin antibodies (AGA) are detected in saliva, intestinal secretions and in the blood stream⁽²⁾. These antibodies gradually disappear after gluten exclusion from the patient's diet.

It has long been postulated that CD is of autoimmune origin. Besides anti-gliadin antibodies, it has been discovered that virtually all untreated patients presented with anti-endomysial IgA antibodies. The exact nature of the "endomysial antigen" remained elusive until, in 1997, when Dietrich et al demonstrated that it is in fact tissue transglutaminase⁽⁸⁾.

In the laboratory, the determination of tissue transglutaminase (tTG) IgA autoantibodies offers the ease-of-use, convenience and reproducibility of ELISA with clinical performances (sensitivity and specificity) of endomysial antibody testing.

While mucosal biopsy of the duodenal-jejunal junction (where lesions are to be found in both mild and severe forms) remains the first and essential step in the diagnosis of celiac disease⁽³⁾, a characteristically flat mucosa is not specific. High circulating levels of tTGA IgA will therefore confirm the suspicion of celiac disease before the results of a control biopsy after a few weeks on a gluten-free diet.

PERFORMANCE

Sensitivity

Minimum detectable dose : 3.5 U/ml

Precision

r = 12	Sample 1	Sample 2	Sample 3
Mean concentration (U/ml)	7.0	12	34
Standard deviation (U/ml)	0.6	0.7	1.7
Coefficient of variation (%)	8.5	5.8	5.0

Reproducibility

n = 8	Sample 1	Sample 2	Sample 3
Mean concentration (U/ml)	7.0	13	32
Standard deviation (U/ml)	1.1	1.2	2.1
Coefficient of variation (%)	15.7	9.2	6.5

ORDERING

Catalog No. 7044 Description tissue Transglutaminase IgA ELISA kit - Quantitative

 and EN ISO 13485:2003 Compliant, Multi-language inserts available

Bibliography

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