Transglutaminase Ab in Serum

Specimen Type	Serum
Specimen Volume	1.0 mL
Collection	Collect blood in red top or serum gel tube. Allow blood to clot for 30 minutes. Centrifuge at 3,000 rpm for 10 minutes. Separate serum and freeze immediately.
Minimum Volume	0.5 mL
Handling	Ship frozen on dry ice.
Rejection Criteria	Grossly hemolyzed specimens. Grossly lipemic specimens. Specimens received unfrozen. Specimens outside of listed stability. Samples submitted without two unique identifiers and date of collection.
Stability	Refrigerated for 2 days. Frozen for 21 days.
Methodology	ELISA
Reference Range	IgG: < 6.0 U/mL Negative IgA: < 4.0 U/mL Negative IgM: < 12.4 U/mL Negative
Turnaround Time	Up to 7 business days.
CPT Code	83516 x 3

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Clinical Significance	Celiac disease is a chronic disease with a genetic predisposition. Gluten intolerance or hyper-reactivity is the main cause. Signs include chronic fatigue, depression, anemia, diarrhea, slow growth, vomiting, and low appetite. Classically, the diagnosis of the disease is based on a positive biopsy of the small intestine. Tissue transglutaminase (tTG), an endomysial protein, is released from cells during inflammation. The corresponding antibodies can be correlated with the intestinal wall damage. The test is suitable for the screening of children or adults clinically suspected of celiac disease. Patients with dermatitis herpetiformis and insulin dependent diabetes mellitus (approximately 5%) may also have elevated t-Transglutaminase IgA after the onset of treatment which can be used for tracking treatment effectiveness.
Principle	The human t-Transglutaminase antibodies (IgG, IgM, and IgA) test is an *in vitro* ELISA. The assay semi-quantitatively detects IgG, IgM, and IgA antibodies directed against t-Transglutaminase in serum. The t-Transglutaminase calibrators, controls, and patient sera are micropipetted into the wells of the antigen coated microplate. Other serum components are washed away with buffer, and enzyme conjugates specific for the antibodies are added to the wells. Any unbound antibody-enzyme reagent is washed off the plate. A substrate containing tetramethylbenzidine chromogen is added. The intensity of color developed is proportional to the amount of t-Transglutaminase antibodies bound initially. The color development is stopped by addition of an acidic solution. The intensity of the resulting yellow color is then measured using a standard ELISA reader at 450 nm. The patient results obtained from the standard curve are expressed in U/mL.