Celiac Disease Diagnostic Testing Algorithm

Testing for selective IgA deficiency

IGA / Immunoglobulin A (IgA), Serum

TTGA / Tissue Transglutaminase (tTG) Antibody, IgA, Serum

IgA ≥1 mg/dL and below age-matched reference values

■ TSTGP / Tissue Transglutaminase (tTG) Antibodies, IgA and IgG Profile, Serum
■ DGLDN / Gliadin (Deamidated) Antibodies Evaluation, IgG and IgA, Serum

<4.0 U/mL

Celiac disease very unlikely.

Exception:

■ ~10% of patients with celiac disease are seronegative

If celiac disease is highly suspected, consider CELI / Celiac Associated HLA-DQ Alpha 1 and DQ Beta 1 DNA Typing, Blood

4.0–10.0 U/mL

■ DAGL / Gliadin (Deamidated) Antibody, IgA, Serum
■ EMA / Endomysial Antibodies (IgA), Serum

>10.0 U/mL

Any result positive or equivocal

Proceed to biopsy

NEGATIVE

(EMA negative and d-gliadin <20.0 Units)

Possible false-positive tTG result

Celiac disease possible but unlikely

If strong suspicion of celiac disease remains, perform HLA typing.

POSITIVE

(EMA positive and/or d-gliadin ≥20.0 Units)

CELI / Celiac Associated HLA-DQ Alpha 1 and DQ Beta 1 DNA Typing, Blood

NEGATIVE

Not celiac disease

Possible celiac disease

POSITIVE

for DQ2 or DQ8

CELI / Celiac Associated HLA-DQ Alpha 1 and DQ Beta 1 DNA Typing, Blood

NEGATIVE

Not celiac disease

Possible celiac disease

POSITIVE

for DQ2 or DQ8

Follow-up patient for future development of celiac disease

Biopsy results inconsistent with serology

CELI / Celiac Associated HLA-DQ Alpha 1 and DQ Beta 1 DNA Typing, Blood

NEGATIVE

Not celiac disease

Possible celiac disease

POSITIVE

CELI / Celiac Associated HLA-DQ Alpha 1 and DQ Beta 1 DNA Typing, Blood

NEGATIVE

Possible celiac disease

POSITIVE

Celiac disease

Selective IgA deficiency*

TTGG / Tissue Transglutaminase (tTG) Antibody, IgG, Serum

DGGL / Gliadin (Deamidated) Antibody, IgG, Serum

<4.0 U/mL

Celiac disease very unlikely.

Exception:

■ ~10% of patients with celiac disease are seronegative

If celiac disease is highly suspected, consider CELI / Celiac Associated HLA-DQ Alpha 1 and DQ Beta 1 DNA Typing, Blood

4.0–10.0 U/mL

■ DAGL / Gliadin (Deamidated) Antibody, IgG, Serum
■ EMA / Endomysial Antibodies (IgG), Serum

>10.0 U/mL

All results normal

Celiac disease very unlikely.

Exception:

■ ~10% of patients with celiac disease are seronegative

If celiac disease is highly suspected, consider CELI / Celiac Associated HLA-DQ Alpha 1 and DQ Beta 1 DNA Typing, Blood

*For individuals with clinical symptoms suggestive of recurrent infections, suggest further evaluation for possible primary immunodeficiency:

IGGS / IgG Subclasses, Serum
IMMG / Immunoglobulins (IgG, IgA, and IgM), Serum