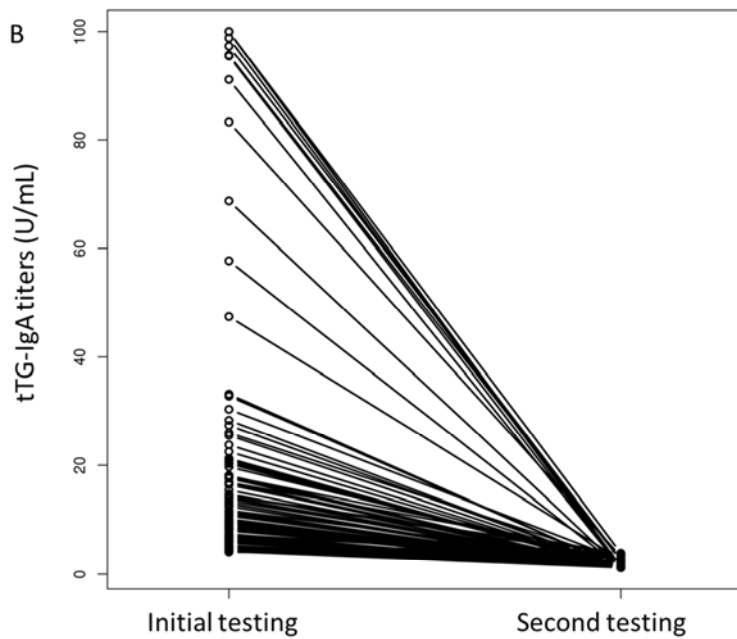
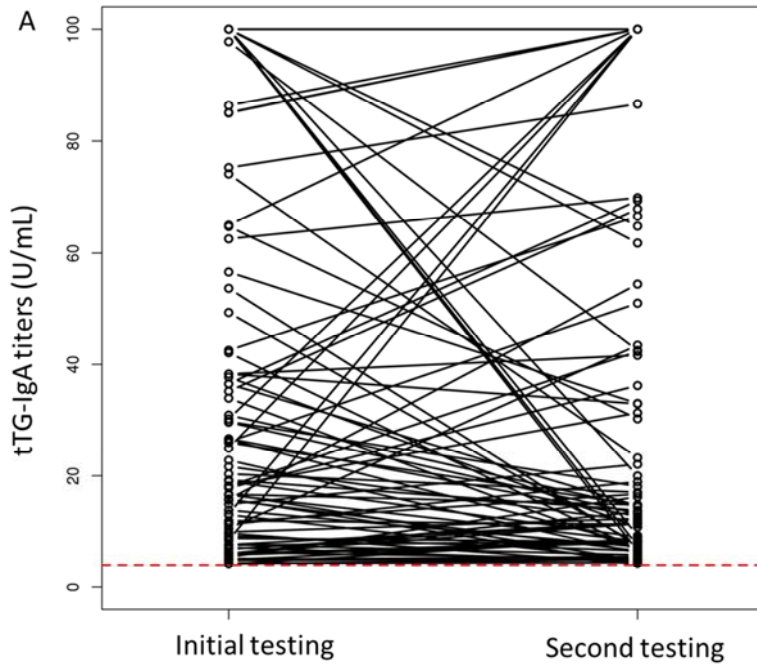


Supplemental figure 1. Changes of tTG titers between initial and second testing in subjects with initially positive tTGA. A. The changes of tTGA in adults with persistently positive tTGA at the initial and second testing are depicted. Half of them had increased titers of tTGA in the second testing. B. The tTGA titers were all normalized in the second testing.



Supplemental table 1. Comparison between those who only had initial testing and subjects with initial and second testing.

	Subjects not in Retest Study (N=32,123)	Subjects in Retest Study (N=15,551)	Total (N=47,674)	p value
<b>Age at Original Sample Collection</b>				<0.001 <sup>a</sup>
Mean (SD), years	46.8 (19.9)	47.0 (13.8)	46.9 (18.1)	
Median (IQR), years	42.9 (30.1, 62.6)	46.5 (37.0, 57.6)	44.7 (32.0, 60.0)	
<b>Gender</b>				<0.001 <sup>b</sup>
Male, n (%)	14052 (43.7%)	6497 (41.8%)	20549 (43.1%)	
Female, n (%)	18071 (56.3%)	9054 (58.2%)	27125 (56.9%)	
<b>tTGA titers at the initial testing</b>				<0.001 <sup>a</sup>
Mean (SD), U/mL	1.6 (4.9)	1.5 (4.1)	1.6 (4.6)	
<b>tTGA results, n (%)</b>				0.03 <sup>b</sup>
tTGA < 4 U/mL (negative)	31737 (98.8%)	15398 (99.0%)	47135 (98.9%)	
4 ≤ tTGA < 40 U/mL (weak positive)	277 (0.9%)	120 (0.8%)	397 (0.8%)	
tTGA ≥ 40 U/mL (positive)	109 (0.3%)	33 (0.2%)	142 (0.3%)	
<b>Initial EMA positive, %</b>	323 (1.0%)	133 (0.9%)	456 (1.0%)	0.06 <sup>b</sup>

Abbreviations: IQR, interquartile range; tTGA, tissue transglutaminase antibody; EMA, endomysial antibodies.

<sup>a</sup>Kruskal Wallis; <sup>b</sup>Chi-Square

Supplementary table 2. Characteristics of 6 patients with negative initial tTGA, who were subsequently diagnosed with celiac disease

	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5	Patient 6
Gender	Male	Male	Female	Female	Female	Female
Age at initial testing	51 years old	64 years old	49 years old	29 years old	44 years old	34 years old
tTG-IgA results at the initial testing	Negative	Negative	Negative	Negative	Negative	Negative
Intervals between initial serum samples and diagnosis	9.5 years	9.0 years	7.6 years	5.8 years	1.2 years	7.4 years
Age at diagnosis	61 years old	73 years old	48 years old	26 years old	38 years old	33 years old
Symptoms at diagnosis	Diarrhea	Diarrhea and Weight loss	IBS like symptoms including diarrhea	Abdominal pain	Abdominal pain & diarrhea	Diarrhea, Weight loss
Histologic findings at diagnosis	Partial villous atrophy with increased IEL	Partial villous atrophy with increased IEL	Partial villous atrophy with increased IEL	Partial villous atrophy with increased IEL	Increased IEL	Total villous atrophy with increased IEL
Respond to gluten-free diet (GFD)	Not following a GFD	Yes	Yes	Yes	No	Yes
Presence of autoimmune diseases	No	No	No	No	Yes	No