

Supplementary Information

A novel screening test for celiac disease using peptide functionalised gold nanoparticles

S1. Characterization of AuNP coated with NeutrAvidin using DLS.

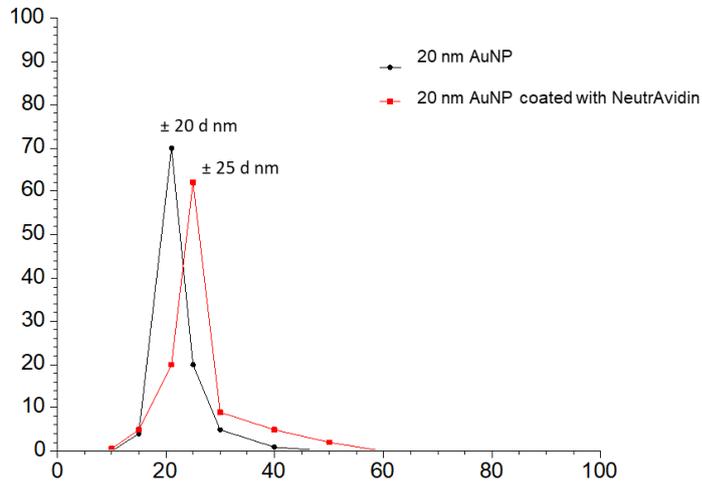
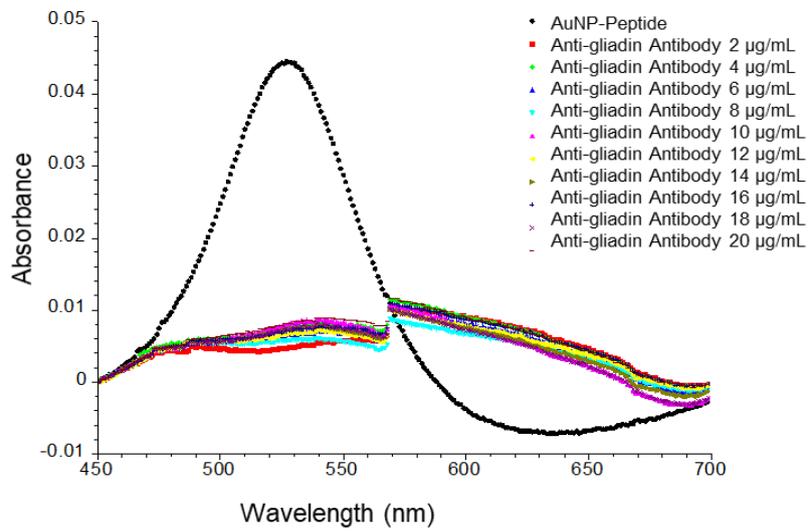


Figure S1. Characterization of AuNP coated with NeutrAvidin using DLS that showed an increase in the hydrodynamic size of the uncoated vs coated particles from 20 nm to 25 nm respectively.

S2. Testing the effect of the addition of AGA at a level normally found in serum to coated 20 nm AuNPs coated with peptide.



Supplementary Figure 2 Incubation of AuNPs coated with peptide with AGA at various dilutions.

S3. Testing the effect of the addition of control antibody (IgG) at a level normally found in serum to AuNPs coated with peptide.

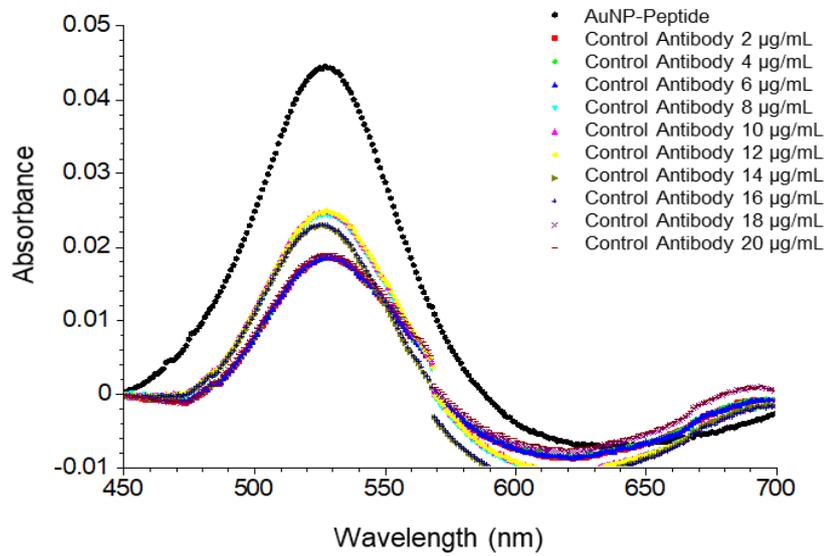


Figure S3 Incubation of AuNPs coated with peptide with control antibody at various dilutions.

Table S1 Shows the calculated p value in AuNP coated with peptide in the presence of AGA antibody and the control antibody (IgG from rabbit serum) at dilutions 2-20 $\mu\text{g}/\text{mL}$.

Sample	Percentage Absorbance	t -test p -values
AuNP coated with Peptide	100	
Anti-gliadin antibody 2.0 $\mu\text{g}/\text{mL}$	17.5	0.0002
Control antibody 2.0 $\mu\text{g}/\text{mL}$	68.5	
Anti-gliadin antibody 4.0 $\mu\text{g}/\text{mL}$	15	0.0003
Control antibody 4.0 $\mu\text{g}/\text{mL}$	65	
Anti-gliadin antibody 6.0 $\mu\text{g}/\text{mL}$	12.5	0.0002
Control antibody 6.0 $\mu\text{g}/\text{mL}$	62.5	
Anti-gliadin antibody 8.0 $\mu\text{g}/\text{mL}$	12.5	0.0002
Control antibody 8.0 $\mu\text{g}/\text{mL}$	60.0	
Anti-gliadin antibody 10.0 $\mu\text{g}/\text{mL}$	17.5	0.001
Control antibody 10.0 $\mu\text{g}/\text{mL}$	55	
Anti-gliadin antibody 12.0 $\mu\text{g}/\text{mL}$	15	0.001
Control antibody 12.0 $\mu\text{g}/\text{mL}$	55	

µg/mL			
Anti-gliadin antibody	14.0	17	0.002
µg/mL			
Control antibody	14.0	52.5	
µg/mL			
Anti-gliadin antibody	16.0	15	0.001
µg/mL			
Control antibody	16.0	52.5	
µg/mL			
Anti-gliadin antibody	18.0	17	0.0002
µg/mL			
Control antibody	18.0	51	
µg/mL			
Anti-gliadin antibody	20.0	17	0.0002
µg/mL			
Control antibody	20.0	51	
µg/mL			