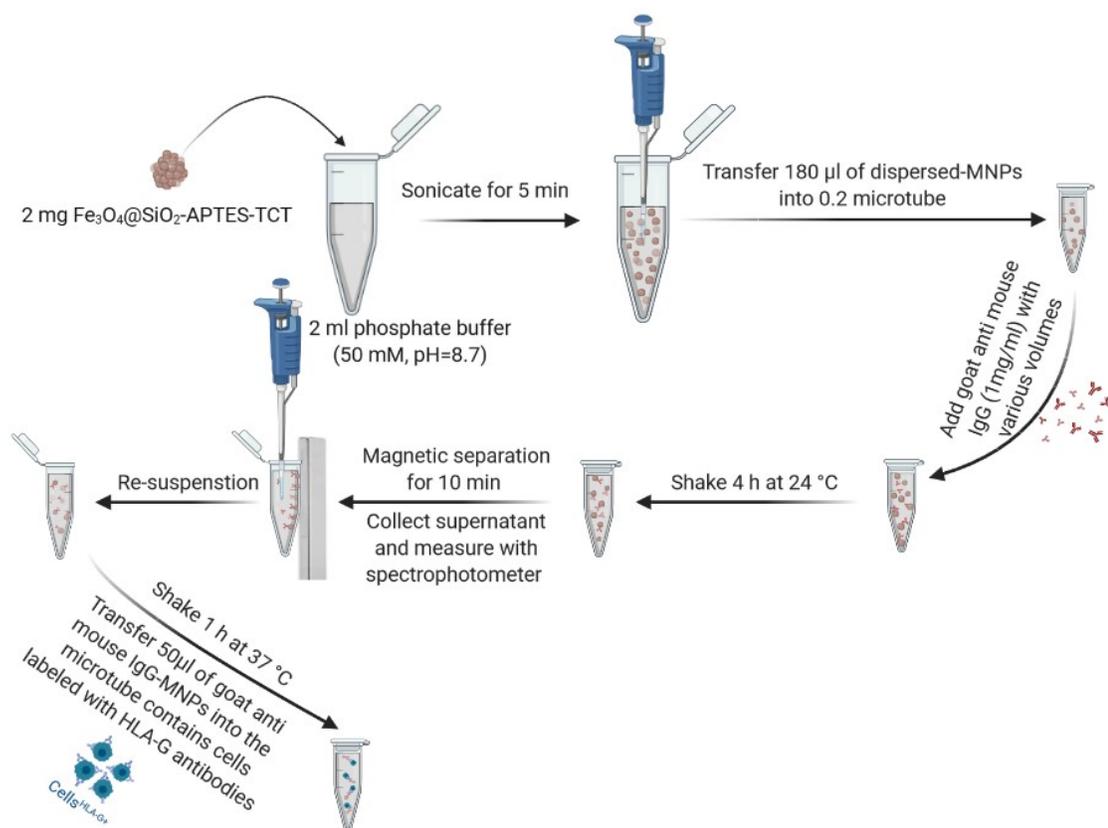
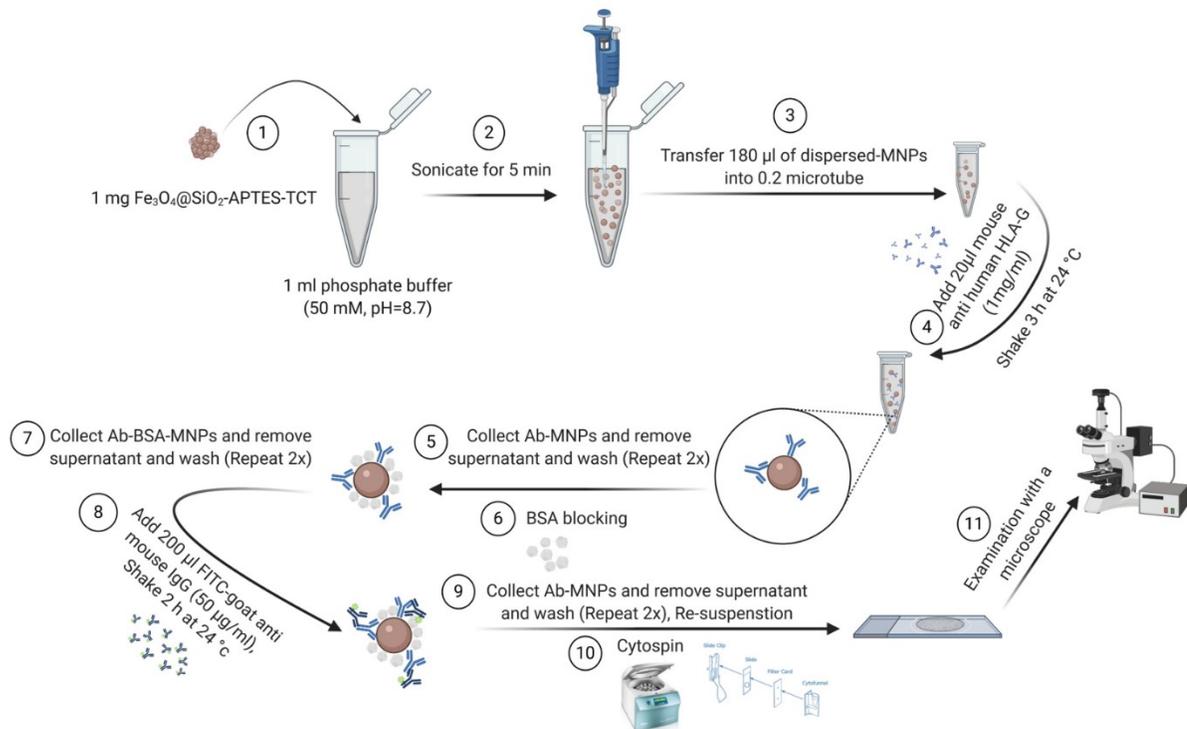


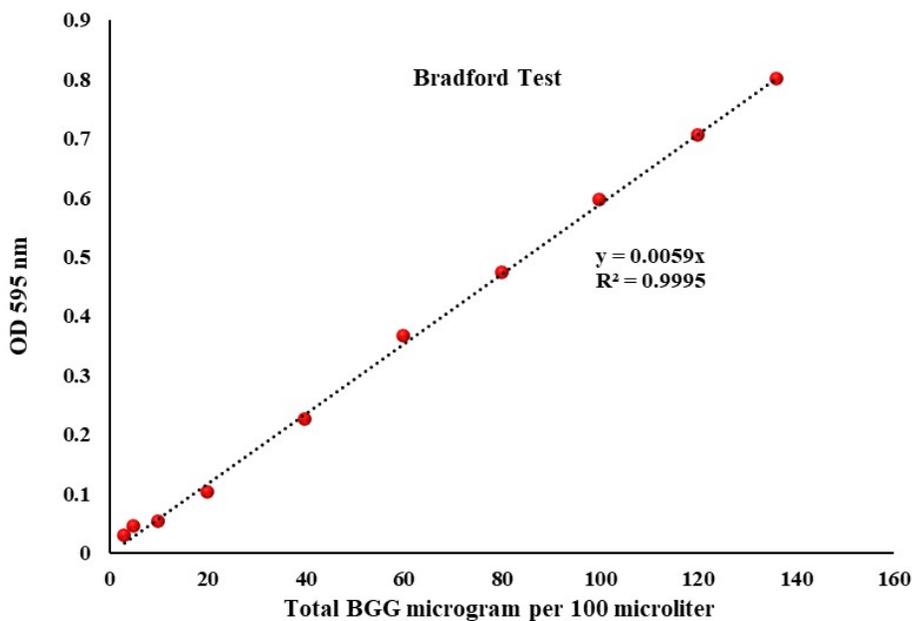
Supplementary Fig. 1 A schematic of the steps of direct immobilization of HLA-G antibody on $\text{Fe}_3\text{O}_4@SiO_2\text{-APTES-TCT}$ nanoparticles. This figure was created using BioRender (<https://biorender.com/>).



Supplementary Fig. 2 A schematic of the steps of indirect immobilization of HLA-G antibody on $\text{Fe}_3\text{O}_4@SiO_2\text{-APTES-TCT}$ nanoparticles. This figure was created using BioRender (<https://biorender.com/>).



Supplementary Fig. 3 Schematic diagram of immobilization confirmation of HLA-G antibody (Ab) on magnetic nanoparticles (MNPs) with FITC-IgG immune reactivity. This figure was created using BioRender (<https://biorender.com/>).



Supplementary Fig. 4 Standard curve of net absorbance versus BGG protein sample concentration by Bradford assay.