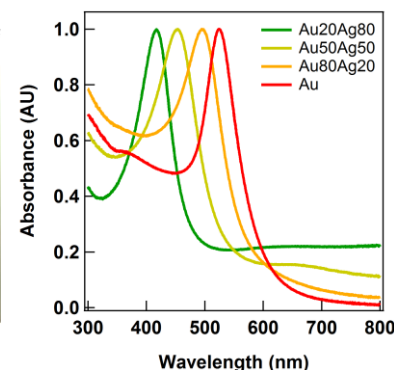
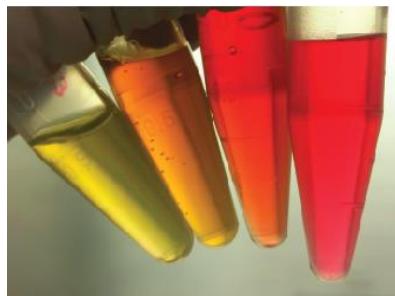


Multicolor Lateral Flow Immunoassays Using i-colloid™ Nanoparticles

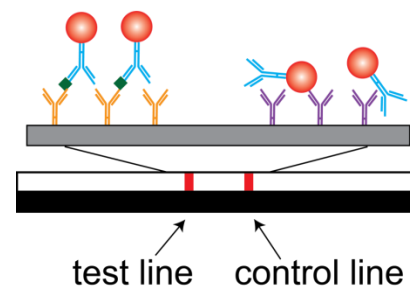
i-colloid™ gold and gold-silver alloys

Noble metal alloy nanoparticles, which exhibit characteristic green, yellow, and orange optical signatures distinguishable from the brilliant red of colloidal gold, can be produced by changing the target composition in pulsed laser ablation (see Technical note T01) to silver and gold alloy. **These particles cannot be fabricated with precise control by any other means** and have great potential as optical tags, as they are more photostable and intense than organic dyes.

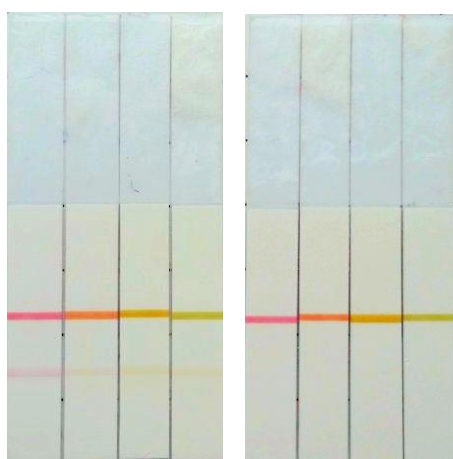


i-colloid™ nanoparticles in lateral flow immunoassays

Au and AuAg alloy nanoparticles were evaluated as colorimetric tags in a lateral flow immunoassay to detect human chorionic gonadotropin (hCG). Antibodies specific to either hCG or anti-hCG antibody were striped on a nitrocellulose membrane, which was then laminated onto a backing card along with an absorbent pad and cut into strips. i-colloid™ nanoparticles bearing anti-hCG antibodies (see Technical note T04) were introduced to different concentrations of hCG antigen and allowed to flow up a strip for 15 minutes.



In all cases, each i-colloid™ nanoparticle conjugate retained its solution-phase color when bound to the immunoassay strip. They additionally showed exemplary immunoassay behavior with low nonspecific binding. These characteristics make them attractive as immunoassay optical tags when additional colors besides the red of colloidal gold are desired.



3 ng/mL hCG 0 ng/mL hCG

