

TABLE 1

Summary of conjugation protocols that resulted in a red solution, implying successful conjugation or no aggregation.

Protocol	Starting concentration of gold nanoparticle	Starting concentration of antibody	Starting solution/ buffer	Incubation time	Storage buffer
A	15 nm particles not concentrated	9.6 µg	0.1 M Borate buffer (pH = 8.5)	30 minutes at room temperature	1000 µL PBS
B	10 nm particles fivefold concentrated	9.6 µg	0.1 M Borate buffer (pH = 8.5)	30 minutes at room temperature	1000 µL PBS
C	10 nm particles not concentrated	9.6 µg	0.1 M Borate buffer (pH = 8.5)	30 minutes at room temperature	200 µL PBS
D	10 nm particles not concentrated	9.6 µg	0.1 M Borate buffer (pH = 8.5)	Overnight at 4°C	200 µL PBS
E	10 nm particles not concentrated	19.2 µg	0.1 M Borate buffer (pH = 8.5)	30 minutes at room temperature	200 µL PBS
F	10 nm particles not concentrated	19.2 µg	0.1 M Borate buffer (pH = 8.5)	Overnight at 4°C	200 µL PBS
G	10 nm particles not concentrated	19.2 µg	0.1 M Borate buffer (pH = 8.5)	30 minutes at room temperature	200 µL Storage Solution 1
H	10 nm particles not concentrated	36.8 µg	Original solvent for AuNP from manufacturer	30 minutes at room temperature	200 µL Storage Solution 2
I	**13 nm particles fivefold concentrated	25 µg	MilliQ water (pH = 9)	1 hour at room temperature	1000 µL Storage Solution 3
J	**13 nm particles fivefold concentrated	50 µg	MilliQ water (pH = 9)	1 hour at room temperature	1000 µL Storage Solution 3

Note. **Gold nanoparticles synthesized in the lab rather than purchased.

TABLE 2

Results for half-strip assays using conjugates prepared using varying conditions in the presence of troponin.

Cardiac Troponin I— Gold nanoparticle conjugate	Color change on the test line	Color change on the control line
A	-	-
B	-	-
C	-	-
D	-	-
E	-	-
F	-	-
G	-	-
H	-	N/A
I	-	+
J	-	++