**Supplementary Table 1. Assay procedure protocol**

1. Prepare all reagents, standards, and samples as directed in the previous sections.

2. Resuspend the diluted microparticle cocktail by inversion or vortexing. Add 50 μL of the microparticle cocktail to each well of the microplate.

3. Add 50 μL of Standard or sample per well. Securely cover with a foil plate sealer. Incubate for 2 hours at room temperature on a horizontal orbital microplate shaker (0.12” orbit) set at 800 ± 50 rpm. A plate layout is provided to record standards and samples assayed.

4. Using a magnetic device designed to accommodate a microplate, wash by applying the magnet to the bottom of the microplate, removing the liquid, filling each well with Wash Buffer (100 μL) and removing the liquid again. Complete removal of liquid is essential for good performance. Perform the wash procedure three times.

5. Add 50 μL of diluted Biotin Antibody Cocktail to each well. Securely cover with a foil plate sealer and incubate for 1 hour at room temperature on the shaker set at 800 ± 50 rpm.

6. Repeat the wash as in step 4.

7. Add 50 μL of diluted Streptavidin-PE to each well. Securely cover with a foil plate sealer and incubate for 30 minutes at room temperature on the shaker set at 800 ± 50 rpm.

8. Repeat the wash as in step 4.

9. Resuspend the microparticles by adding 100 μL of Wash Buffer to each well. Incubate for 2 minutes on the shaker set at 800 ± 50 rpm.

10. Read within 90 minutes using a Luminex or Bio-Rad analyzer.