Supporting Information

# Real-time particle-by-particle detection of erythrocyte camouflaged microsensor with extended circulation time in the bloodstream

Wenjun Di [†#], Xuefei Tan[‡#], Isen Andrew C. Calderon[§], Ashlyn E. Neal Reilly[§], Mark Niedre[‡§], and Heather A. Clark[§‖]

[†]Department of Pharmaceutical Sciences, [‡]Department of Electrical and Computer Engineering, [§]Department of Bioengineering, [‖]Department of Chemistry and Chemical Biology, Northeastern University, Boston, Massachusetts 02115, United States
#: These authors contributed equally

This PDF file includes:

- Figs S1 to S6



www.pnas.org/cgi/doi/10.1073/pnas.1914913117

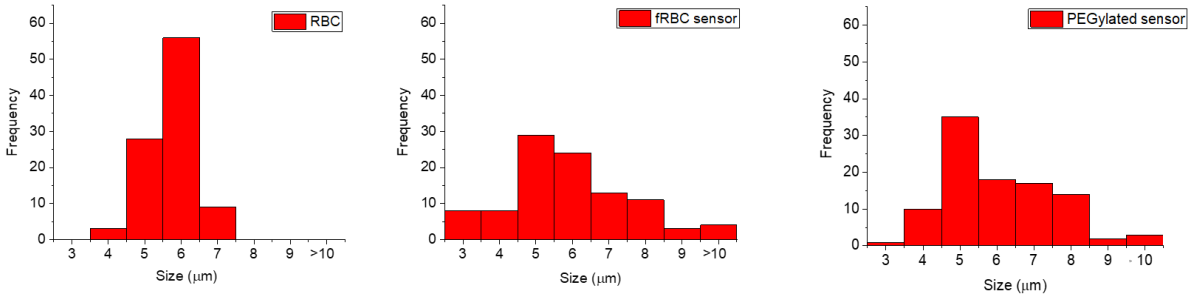


Fig.S1. Histograms of sizes of RBC, the fRBC, and PEGylated sensors measured by bright-field microscope and analyzed by ImageJ.

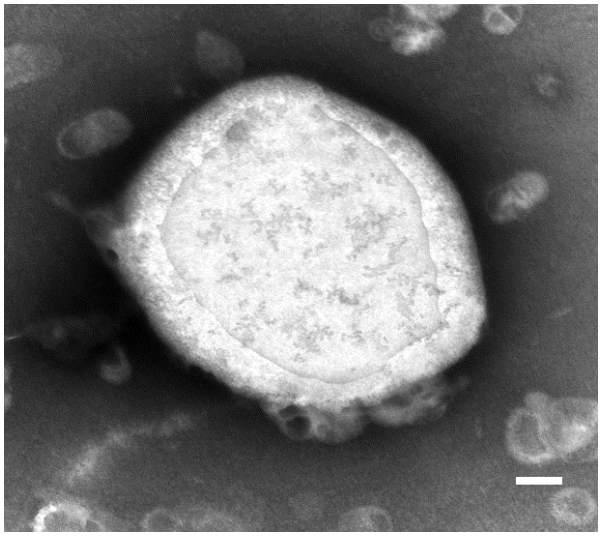

Fig.S2. TEM image of one fRBC sensor. Scale bar: 1 μm

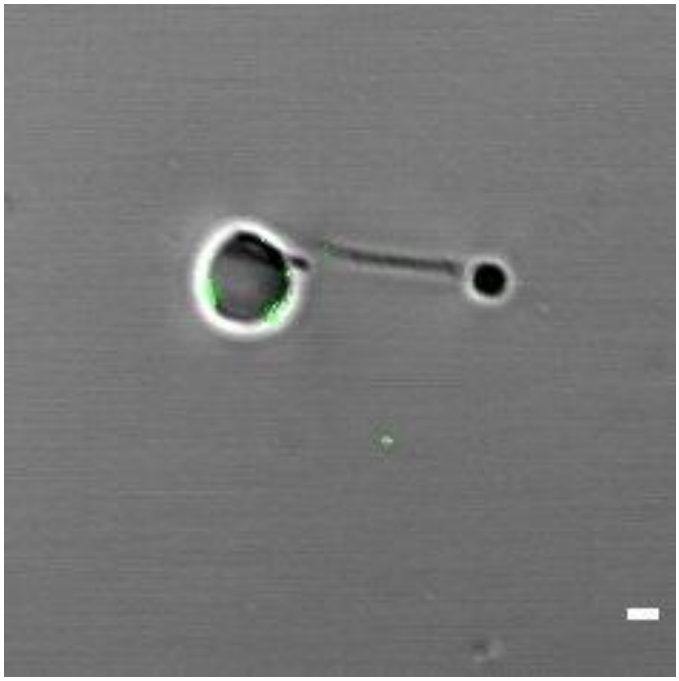

Fig.S3. Labeling of fRBC sensor with AF488-labeled anti-CD47. Scale bar: 1 μm

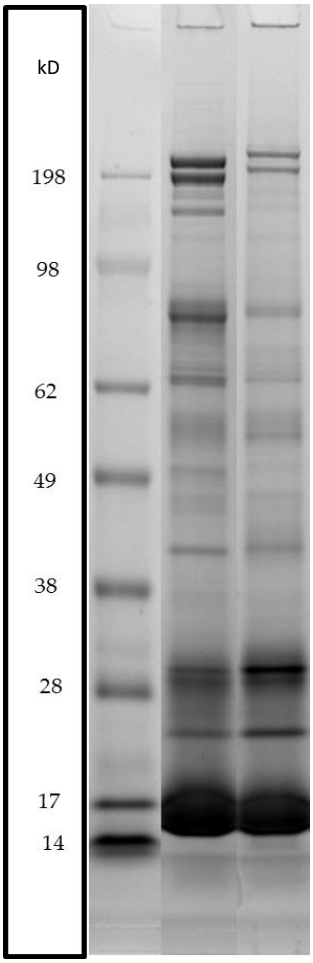


Fig.S4. SDS-PAGE images of the ladder (left), RBC membrane (middle), and the fRBC sensors (right).

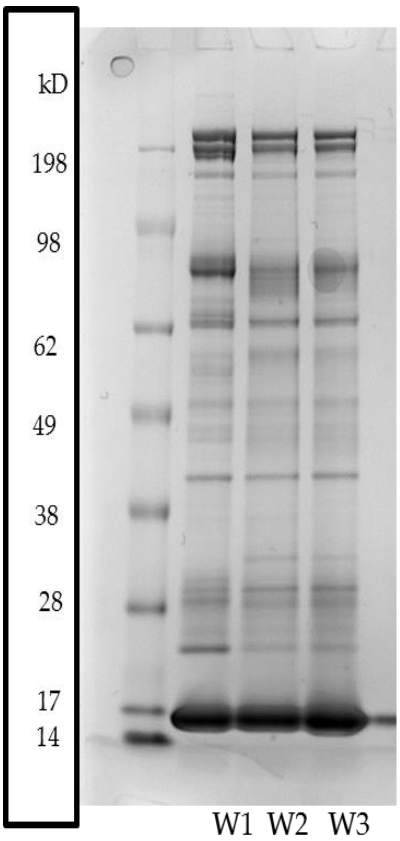


Fig.S5. SDS-PAGE images of RBCs with different storage times. W1, W2 and W3 are the RBCs stored at 4 °C for 1, 2, and 3 weeks, respectively. The left lane was loaded with the protein ladder standard.

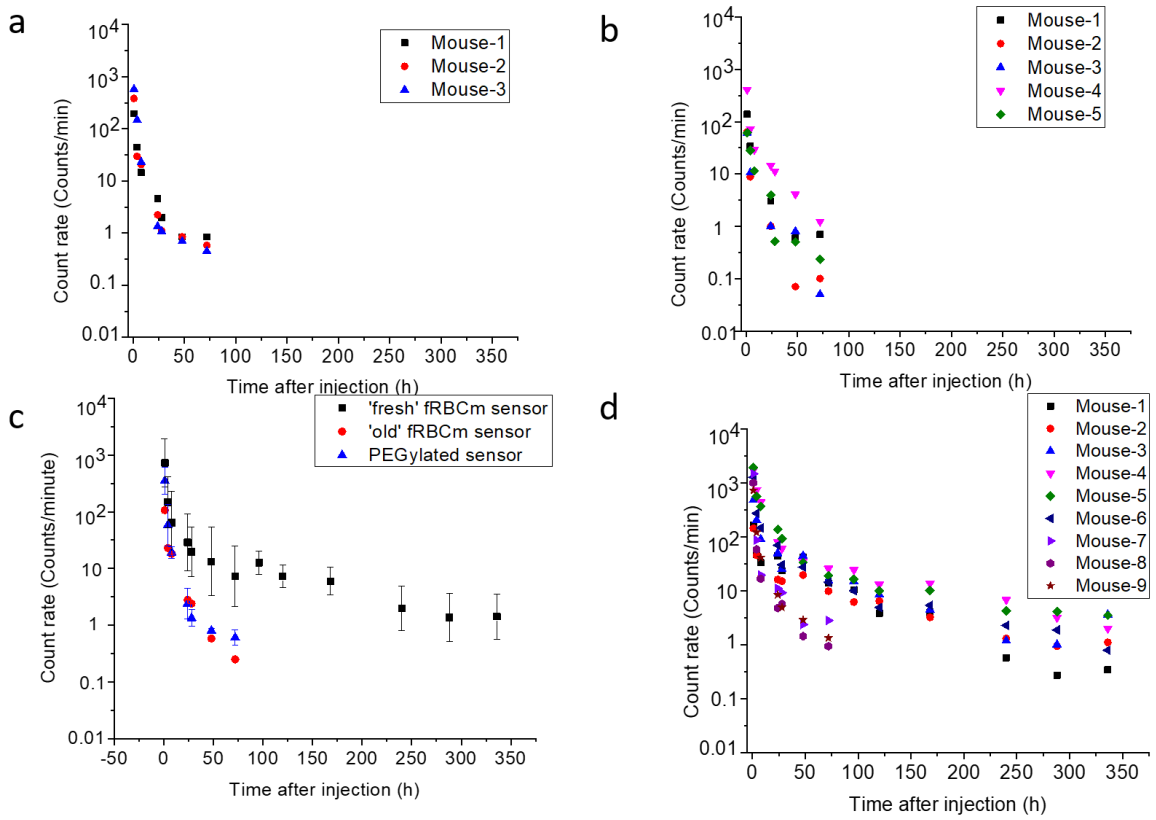


Fig.S6. Full dataset for *in vivo* experiment with DiFC from Fig.6b. Measurements using PEGylated sensors, 'old' fRBC sensors, and 'fresh' fRBC sensors were performed on 3, 5, and 9 animals, respectively. Count rate is defined as the raw counts of sensor particles detected by the DiFC per minutes.