Supporting Information

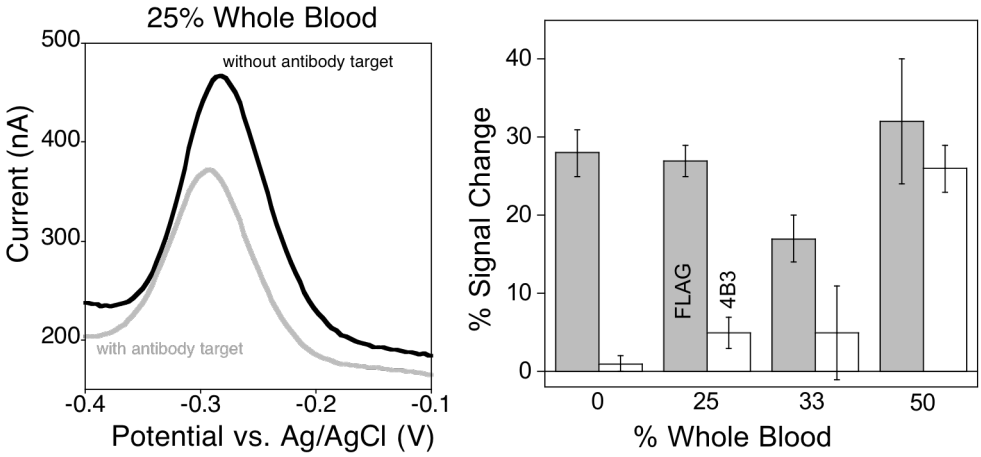


**Figure S1.** The E-DNA antibody sensor performs well in whole blood at dilutions of as little as 1:4 (diluted with buffered saline). Specifically, at this dilution we observe the expected decrease in measured current (relative to the current observed in phosphate buffered saline) from an anti-FLAG antibody sensor when 25 nM FLAG antibody is added to the test sample. Little signal change is observed, in contrast, for a control sensor employing the 4B3 epitope. (*Right*) At dilutions of less than 1:4 even the control sensor responds, suggesting that the non-specific adsorption of blood cells at these lower dilutions spuriously activates the sensor even in the absence of target.

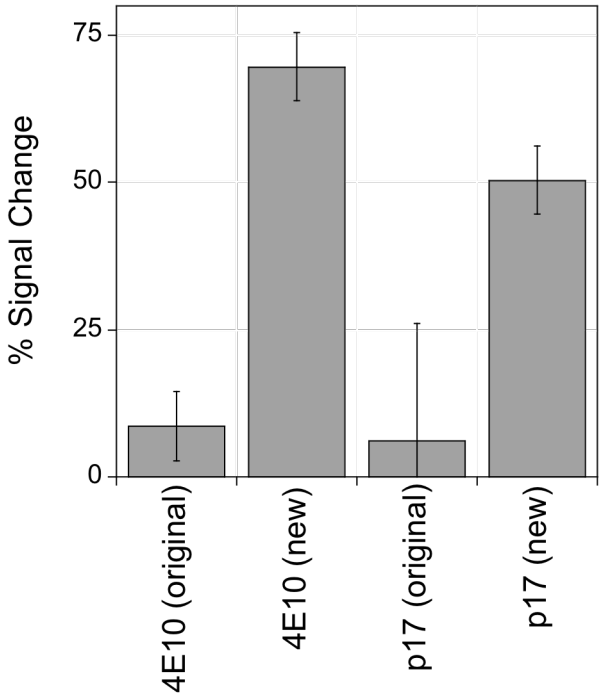


**Figure S2.** While the E-DNA antibody sensor approach appears to be versatile, two of the epitope sequences we employed initially failed to produce functioning sensors. Further reading of the relevant literature suggested, however, small alterations in both epitopes that lead to significantly improved binding. Upon thus modifying these epitopes we achieved a six-for-six success rate in creating E-DNA antibody sensors. Shown are the responses of our original 4E10 and p17 epitope sensors and their second-generation equivalents upon challenge with 40 nM of their specific target antibody. See table 1 for the relevant epitope sequences.