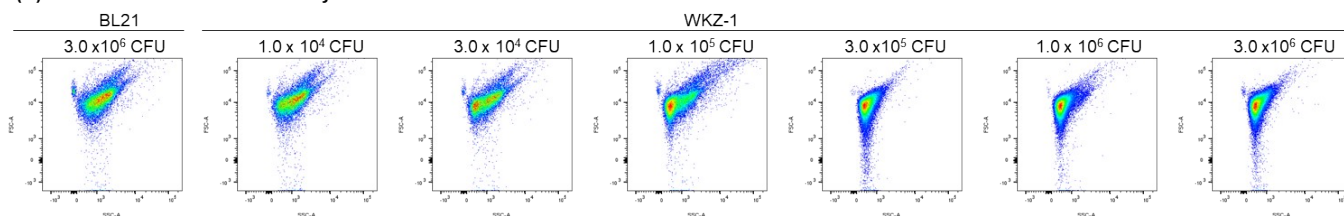
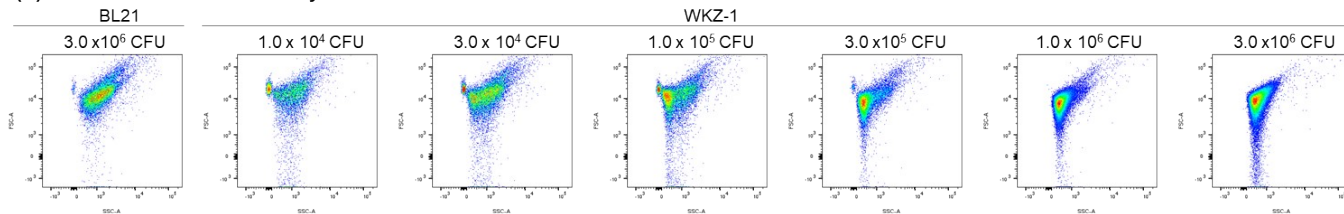


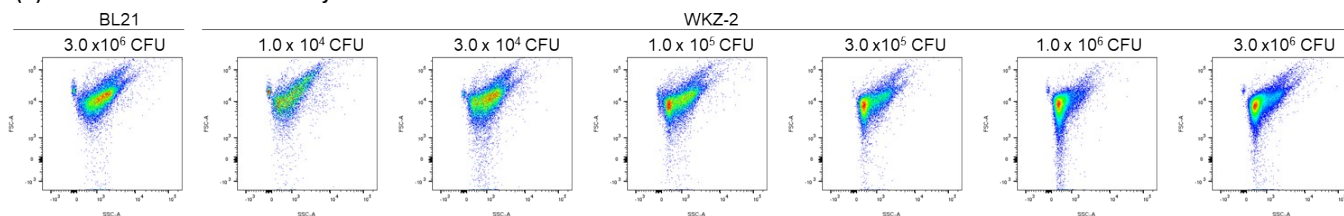
(A) WKZ-1 + Recombinant antibody



(B) WKZ-1 + Commercial antibody



(C) WKZ-2 + Recombinant antibody



(D) WKZ-2 + Commercial antibody

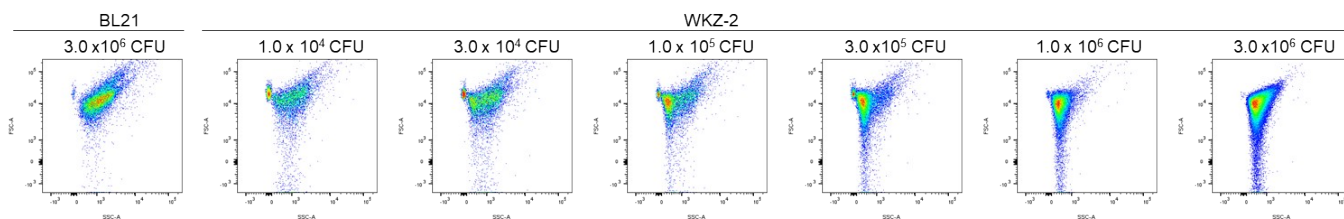
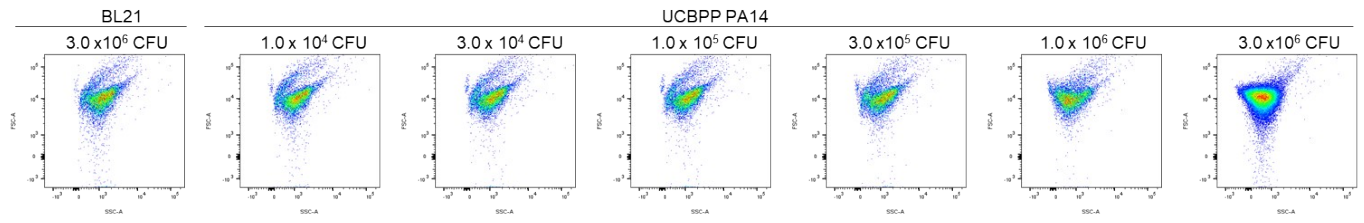
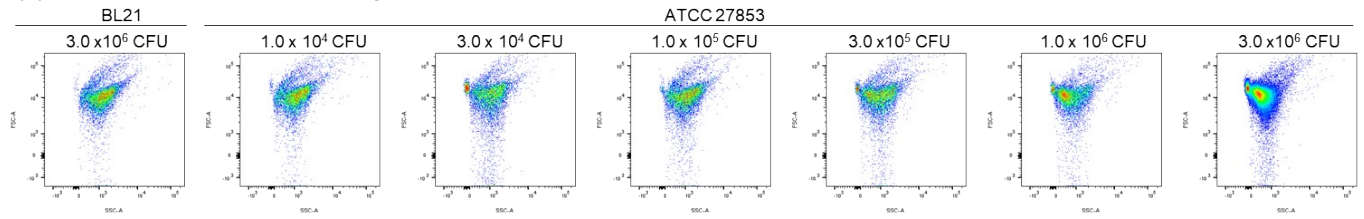


Figure S1. (A,B) Dot plots obtained by flow cytometry analysis after incubation of fluorescent recombinant (A) or commercial antibody (B) with different numbers of WKZ-1 and BL21. (C,D) Dot plots obtained by flow cytometry analysis after incubation of fluorescent recombinant (C) or commercial (D) antibody with different numbers of WKZ-2 and BL21.

(A) UCBPP PA14 + Recombinant antibody



(B) ATCC 27853 + Recombinant antibody



(C) ATCC BAA-2108 + Recombinant antibody

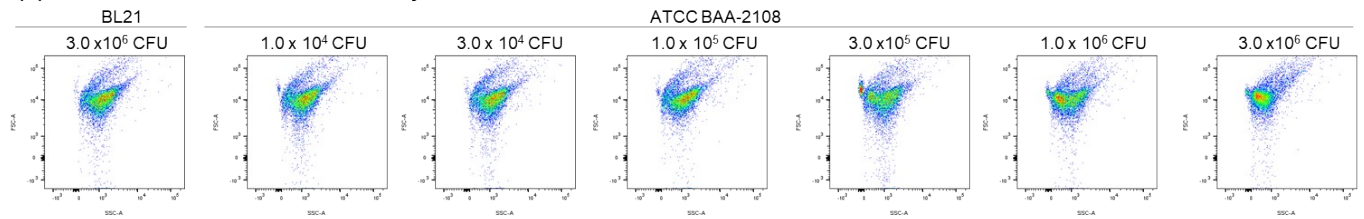
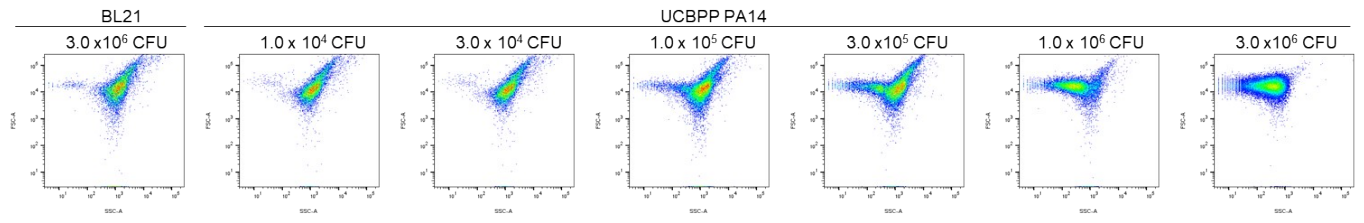
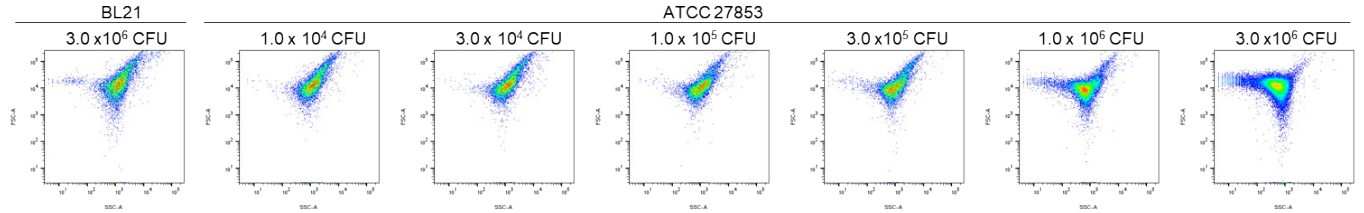


Figure S2. Dot plots obtained by flow cytometry analysis after incubating fluorescent recombinant antibody with different numbers of UCBPP PA14 (A), ATCC 27853 (B), or ATCC BAA-2108 (C).

(A) UCBPP PA14 + Commercial antibody



(B) ATCC 27853 + Commercial antibody



(C) ATCC BAA-2108 + Commercial antibody

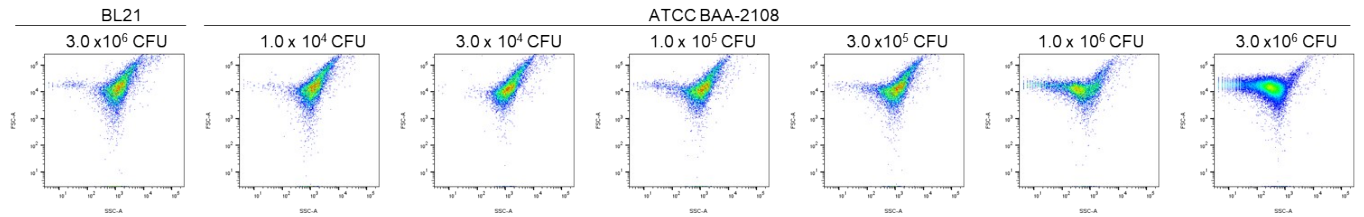


Figure S3. Dot plots obtained by flow cytometry analysis after incubating fluorescent commercial antibody with different numbers of UCBPP PA14 (A), ATCC 27853 (B), or ATCC BAA-2108 (C).

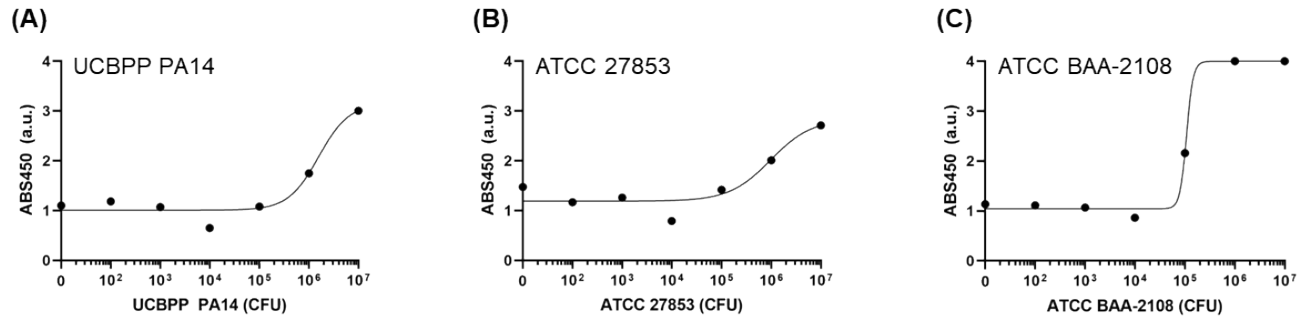
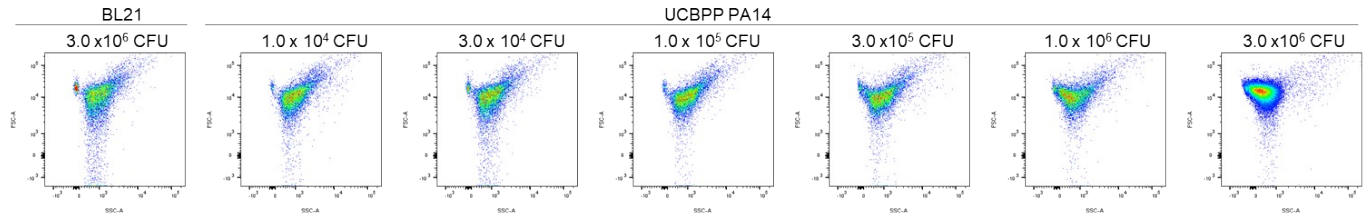
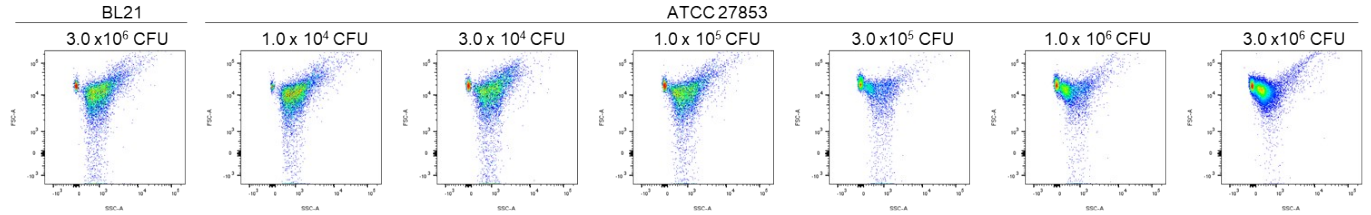


Figure S4. ELISA signals of recombinant scFv against UCBPP PA14 (A), ATCC 27853(B), or ATCC BAA-2108 (C).

(A) UCBPP PA14 + Recombinant scFv



(B) ATCC 27853 + Recombinant scFv



(C) ATCC BAA-2108 + Recombinant scFv

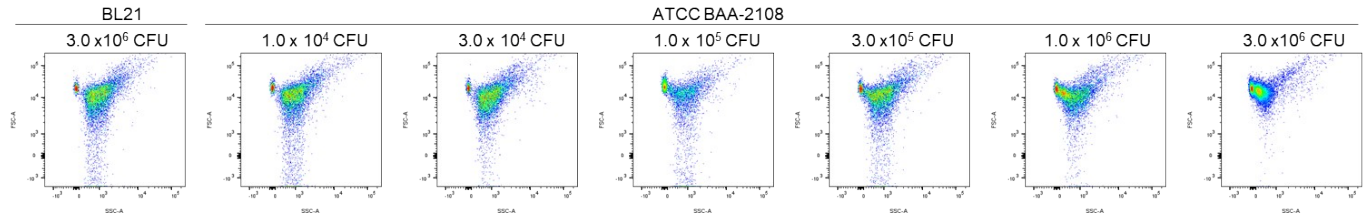


Figure S5. Dot plots obtained by flow cytometry analysis after incubating fluorescent recombinant scFv with different numbers of UCBPP PA14 (A), ATCC 27853 (B), or ATCC BAA-2108 (C).

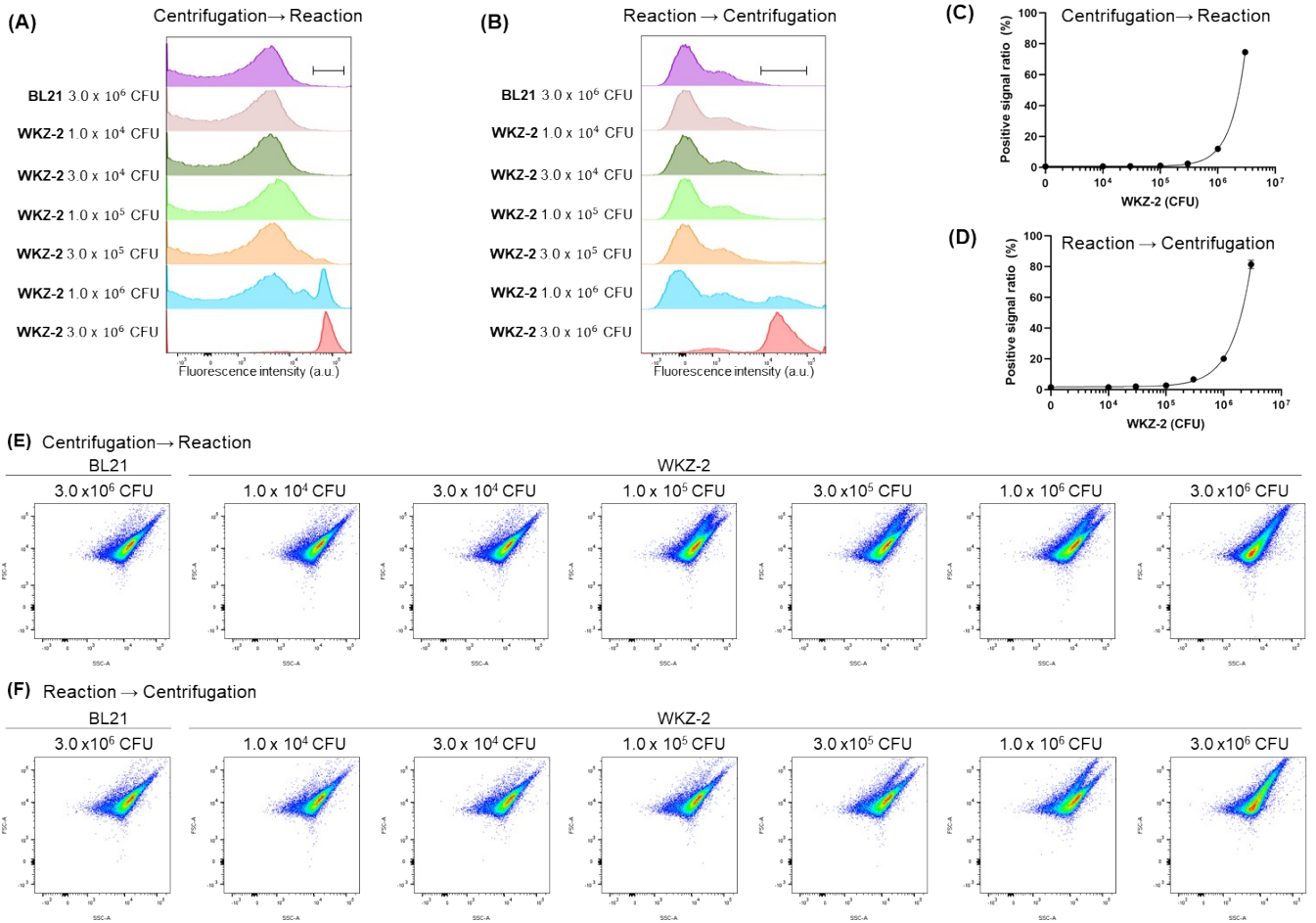


Figure S6. (A,B) Overlaying histograms obtained by flow cytometry analysis after incubation of fluorescent 6DW2 with different numbers of WKZ-2-included commercially available apple juice. Mock pathogenic apple juice sample was centrifuged and fluorescent dye-labeled 6DW2 was added to the pellet (A). Fluorescent 6DW2 was added to mock pathogenic apple juice, and the sample was centrifuged (B). **(C,D)** Positive signal ratio of the mean of fluorescence intensity of range-gated in each histogram. Error bars represent ± 1 SD ($n = 3$). **(E,F)** Dot plots obtained by flow cytometry.