Submitted to small NANO MICRO

Supporting Information

for *Small*, DOI: 10.1002/smll.201303629

Facile Method for the Site-Specific, Covalent Attachment of full-length IgG onto Nanoparticles

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SUPPLEMENTARY METHODS:

Protein Z Sequence

The amino acid sequence of the photoreactive protein Z is provided below. The amino acids that were mutated to BPA are shown in red.

VDNKFNKEQQNAFYEILHLPNLNEEQRNAFIQSLKDDPSQSANLLAEAKKLNDAQAP KMRM

SUPPLEMENTARY FIGURES:

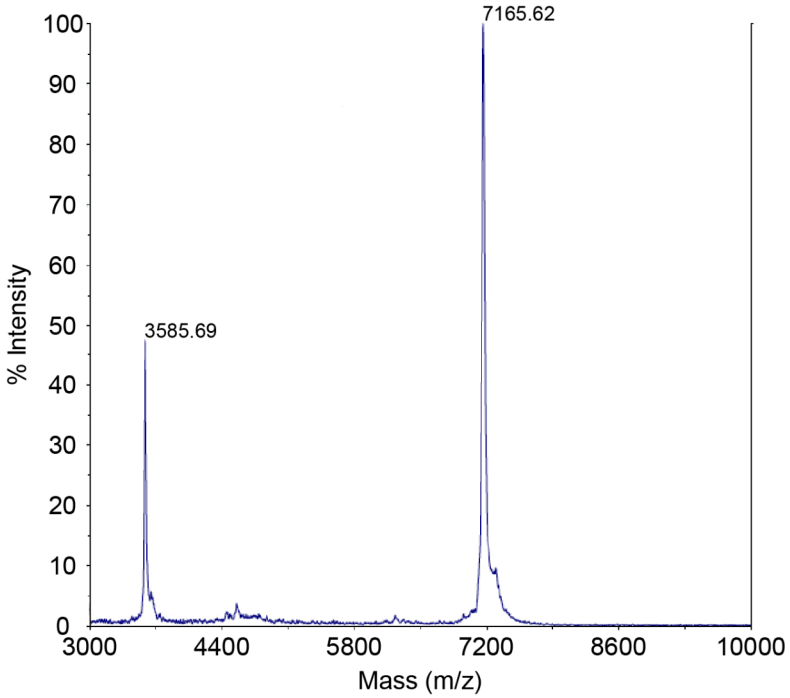

Figure S1. MALDI-MS spectrum of F13BPA variant of Protein Z. The F13BPA variant of Protein Z was expressed, cleaved on-column with dithiothreitol (DTT) and purified with RP-HPLC. The resulting product was analyzed by MALDI-MS. The detected mass (7165.62 Da) is in close agreement with the theoretical mass of 7163.26 Da, confirming the identity of Protein Z with a single BPA substitution in place of phenylalanine.

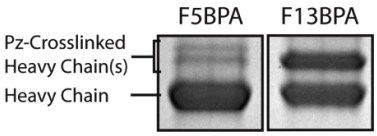

Figure S2. Comparison of IgG crosslinking using F5BPA and F13BPA variants of Protein Z. Rituximab was incubated with the F5BPA or F13BPA variants of Protein Z and exposed to UV irradiation. Protein Z-IgG conjugates were evaluated via a reducing SDS-PAGE gel.

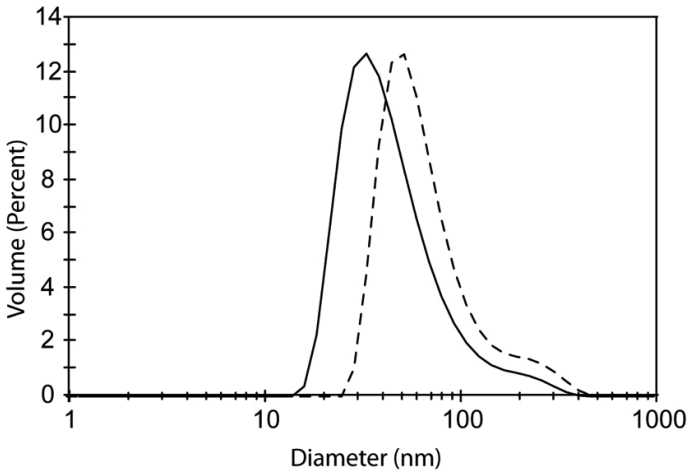

Figure S3. Dynamic light scattering measurements of SPIO. The volume-weighted hydrodynamic diameter of unlabeled SPIO (solid) and SPIO-rituximab conjugates (dashed) were measured by dynamic light scattering. The measuring angle was 90°.

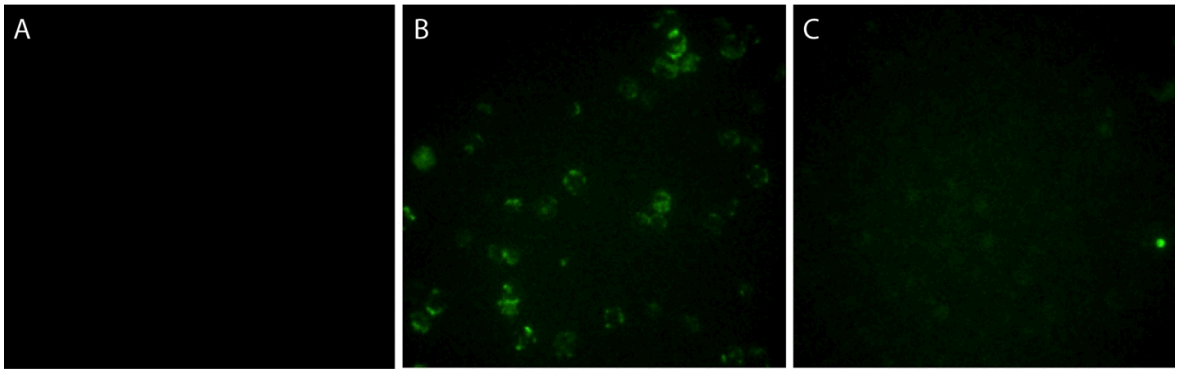

Figure S4. Flourescent microscopy images of B cells. Fluorescent images of GA-10 B cells that were incubated with (A) unlabeled SPIO, (B) SPIO-rituximab conjugates, or (C) SPIO-rituximab conjugates in the presence of excess free rituximab.