Supporting Information

to

Self-adjuvanting polymer-peptide conjugates as therapeutic vaccine candidates against cervical cancer.

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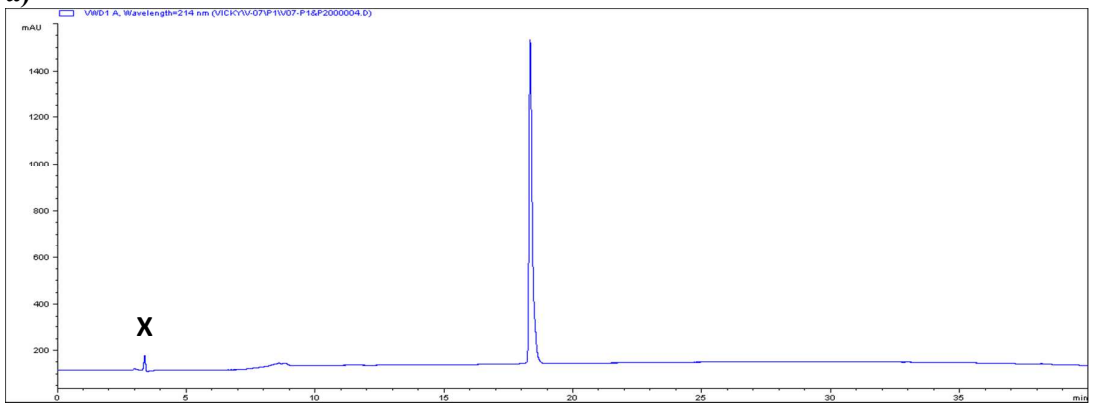
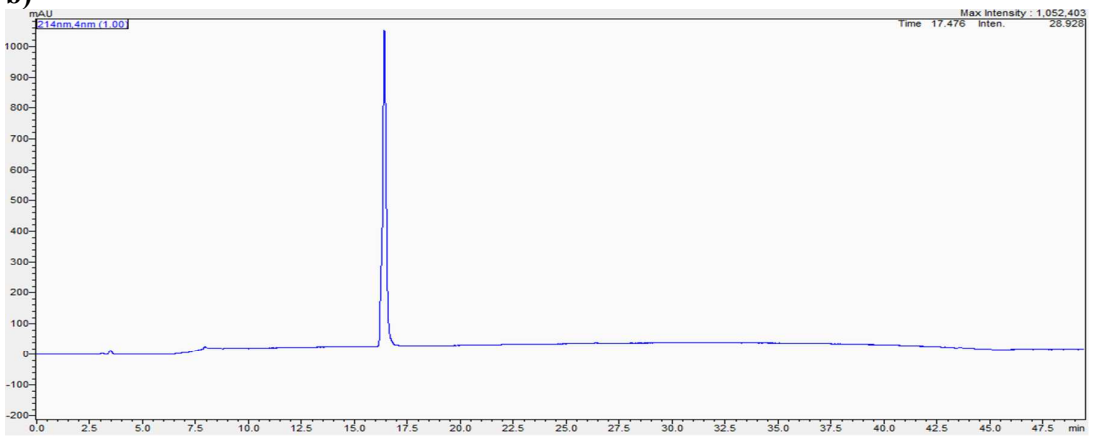
a)



b)



c)

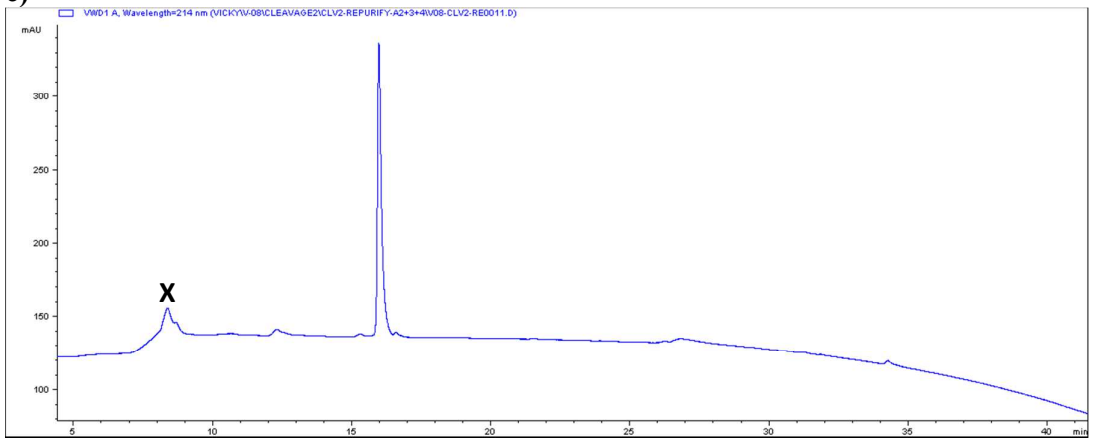


Figure S1. HPLC trace of (a) **8Q$_{min}$** azide peptide, (b) **8Q$_{ser}$** azide peptide, and (c) **8Q$_{Lys}$** azide peptide. (Background signal was marked with a cross).

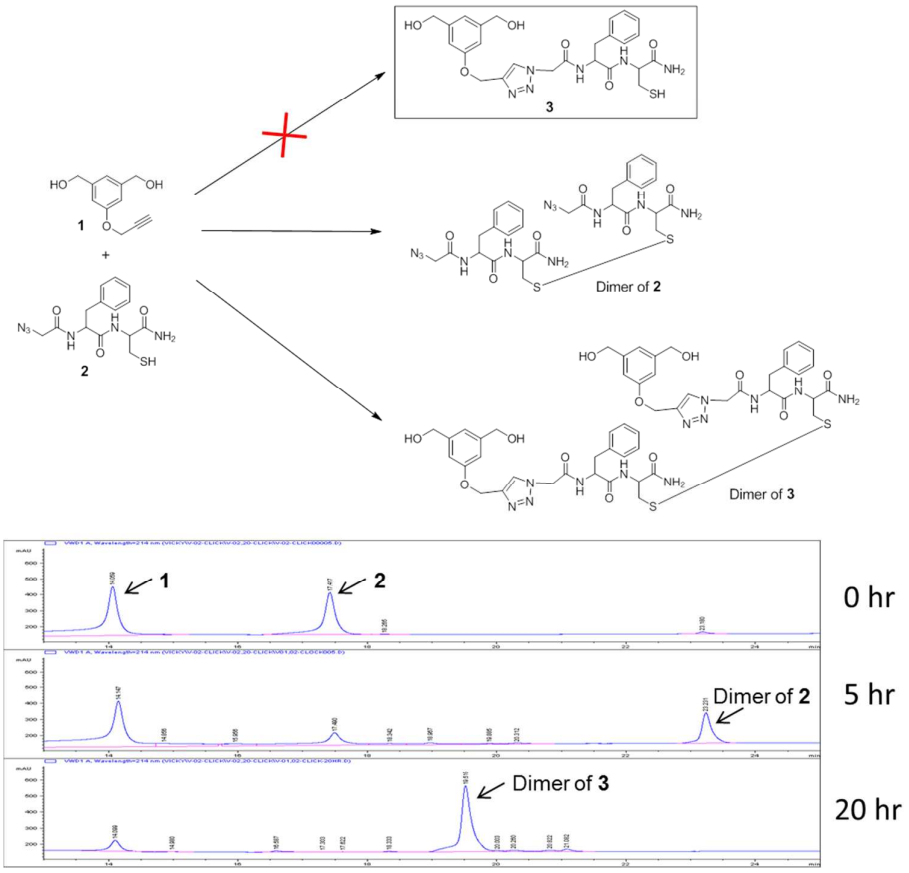


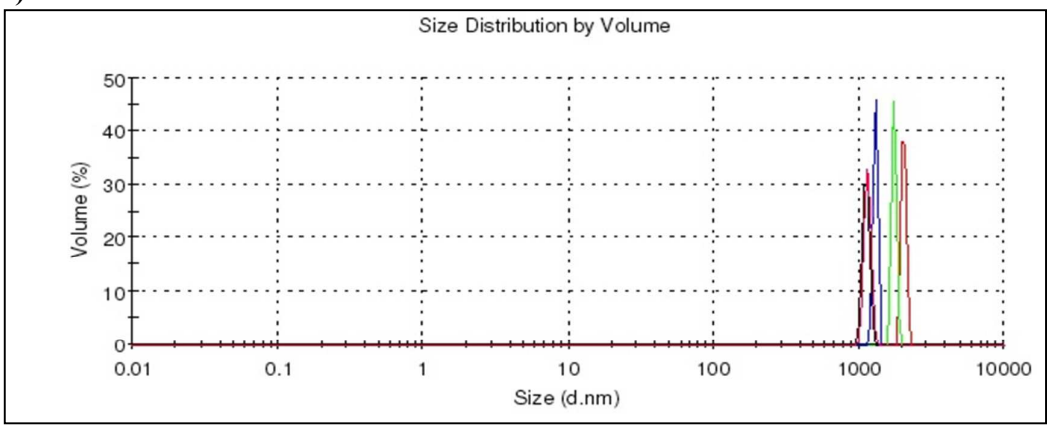
Figure S2. Model "click" reaction between alkyne **1** and azide **2** in DMF at 50 °C using copper wires as a Cu (I) source. The reaction progress was monitored by HPLC and the products were detected by MS.

Cu source	Reducing agent	Solvent	T °C	Reaction time (h)	Major product
Cu wire	——	DMF	50 °C	20 h	Dimer of 3
Cu wire	Asc-H[1]	DMF	RT	28 h	Dimer of 2
$CuSO_4$	Asc-H[1]	DMF	RT	28 h	Dimer of 2
Cu wire	——	Solvent B[3]	RT	28 h	Dimer of 2
CuI	Asc-H[1]	Solvent B[3]	RT	22 h	Dimer of 2
CuI	Asc-H[1]	DMF	RT	22 h	Dimer of 2
Cu wire	Added TCEP[2] after 22 h	DMF	50 °C	48 h	Unidentified mixture
$CuSO_4$	Added TCEP[2] after 22 h	DMF	50 °C	48 h	Unidentified mixture

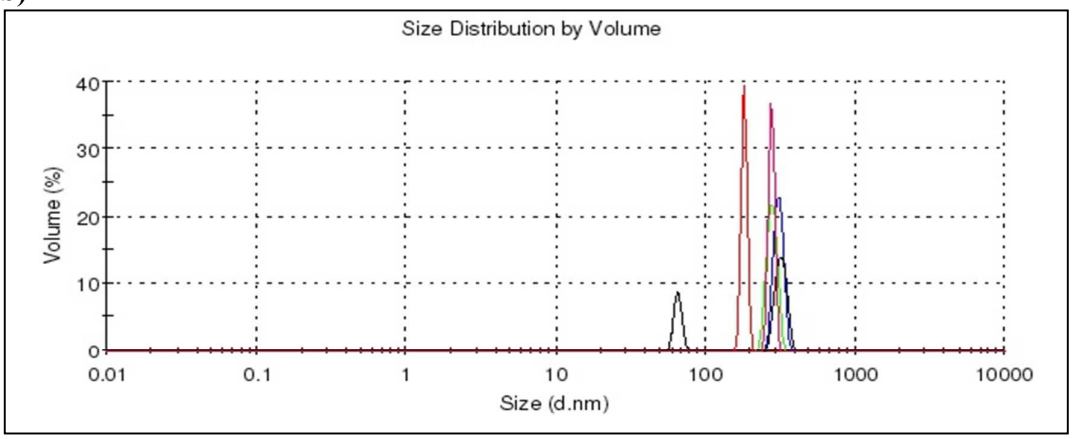
1. Asc-H: ascorbic acid
2. TCEP: tris(2-carboxyethyl)phosphine
3. Solvent B: acetonitrile/water/trifluoroacetic acid, 90/10/0.1

Figure S3. Summary of reaction conditions and results of CuAAC model studies.

a)



b)



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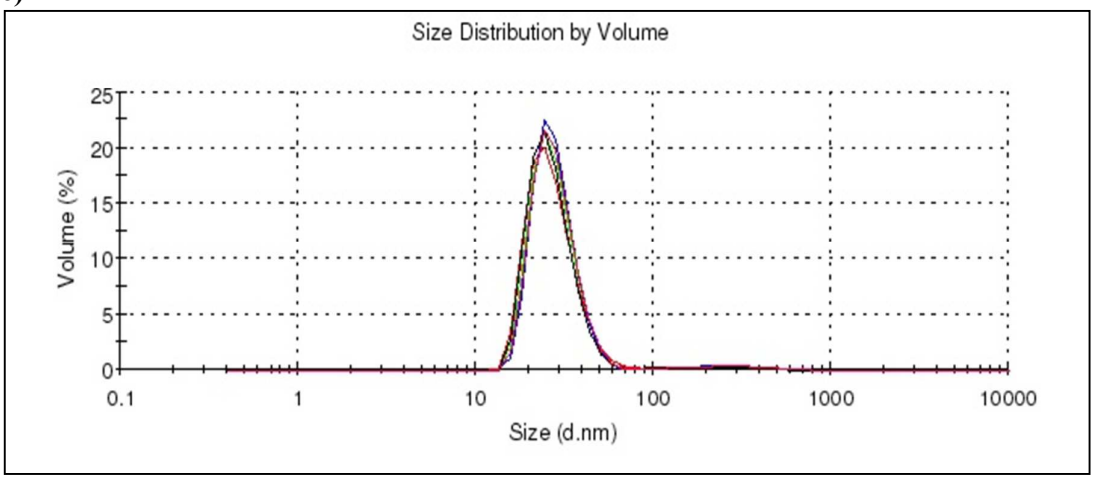


Figure S4. Hydrodynamic diameter (volume-based particle size) as measured by DLS for (a) **S4-8Q$_{min}$**, (b) **S4-8Q$_{ser}$**, and (c) **S4-8Q$_{Lys}$** in water.

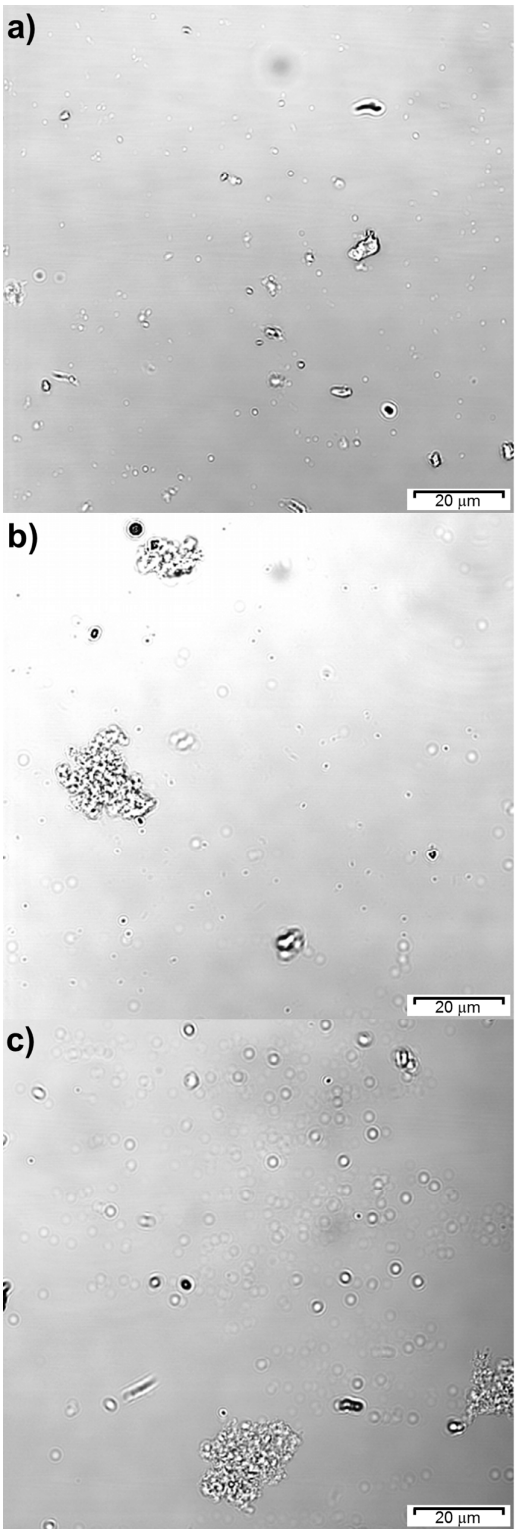


Figure S5. Confocal microscope images of (a) **S4-8Q$_{min}$**, (b) **S4-8Q$_{ser}$**, and (c) **S4-8Q$_{Lys}$** in PBS (scale bar: 20 µm).

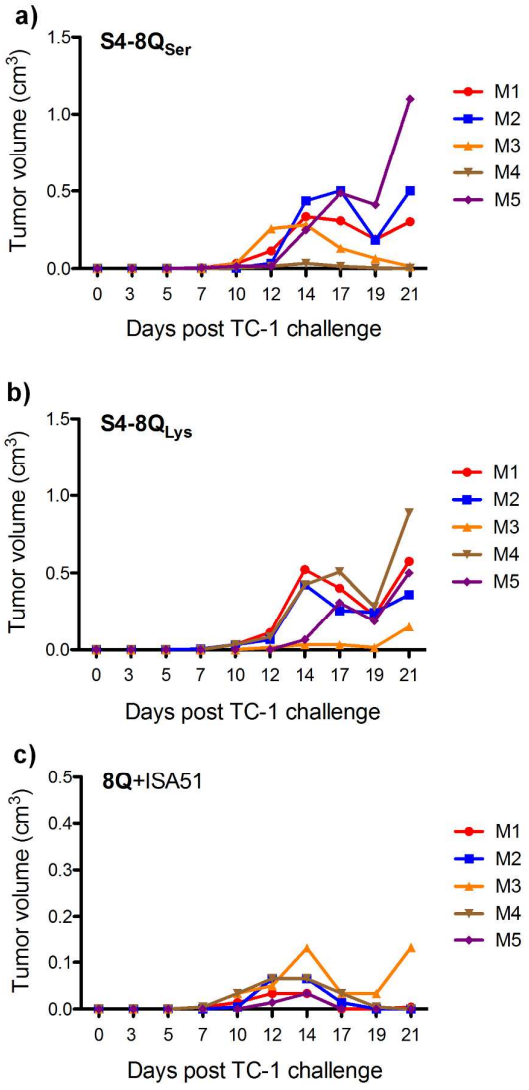
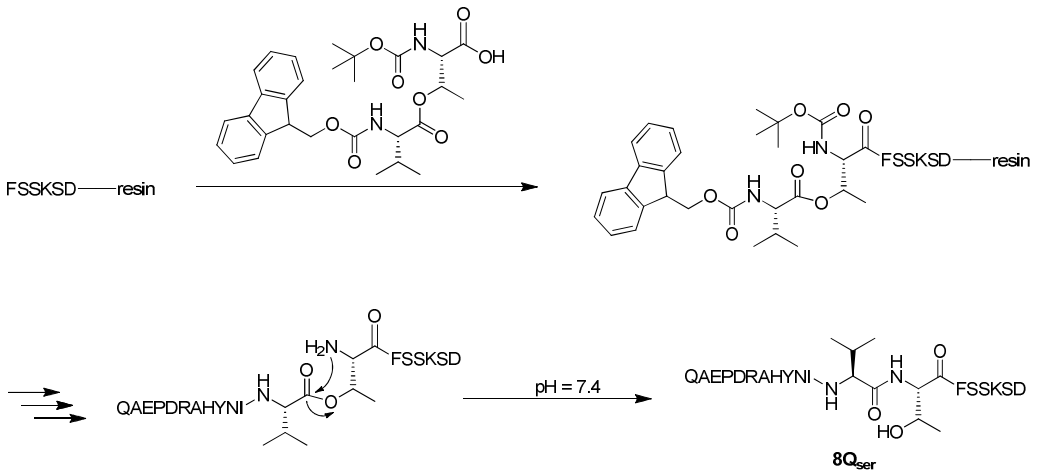


Figure S6. Development of TC-1 tumor (up to 21 days) in five mice treated with (a) **S4-8Q$_{ser}$**, (b) **S4-8Q$_{Lys}$**, or (c) **8Q** + ISA51. Female C57BL/6 (6-8 weeks old) mice were challenged with TC-1 tumor on day 0. The mice received vaccination on day three.



Scheme S1. Isopeptide method for the synthesis of peptides that contain a difficult sequence (**8Q$_{Ser}$**).