Supplementary Material (ESI) for Soft Matter

Enzyme-Responsive Hydrogel Particles for the Controlled Release of Proteins: Designing Peptide Actuators to Match Payload

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Supplementary Information.

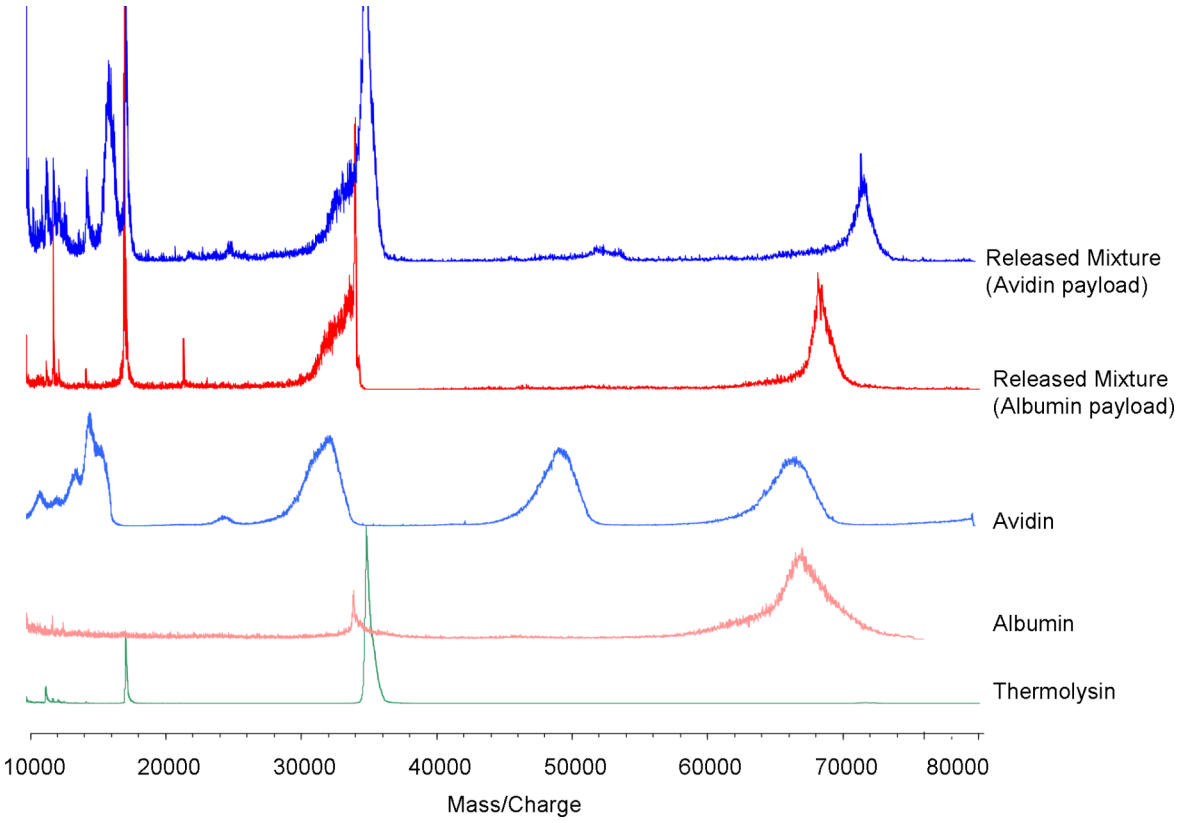

Fig. S1 MALDI mass spectrometric data for protein released from beads after 4 hours incubation with thermolysin and standards. Thermolysin gives a single, strong peak at ~35 kDa, albumin a broad peak around 67.5 kDa and avidin a repeating pattern formed from momomeric, dimeric, trimeric and tetrameric subunits. The released mixtures show slight shifts to higher nominal masses even after careful calibration. Released avidin shows peaks at 68.5 kDa, 34 kDa and 17 kDa with little trimer present. Released albumin shows a peak at 72 kDa. No strong signals are present except from those reasonably assigned to the payload proteins or thermolysin and the peaks belonging to the intact proteins remain strong.

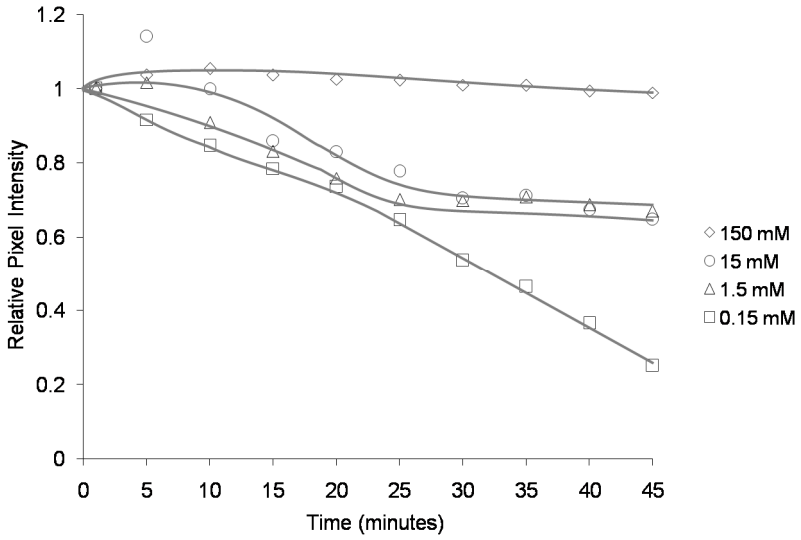

Fig. S2 Relative pixel intensity plots showing release of protein from sequence at different pH 7.4 phosphate buffer concentrations. The release of proteins from beads is almost eliminated at physiological ionic strength values.