Supplementary Figures.

**Figure S1.** Averaged immuno-SERS spectra from Replica Sample 1 probed with ovalbumin primary and carboxy-terminated SERS-633 at 20x (left) and 50x (right) Raman objective. In both cases the French ochre/ovalbumin layer (red) shows similar signal intensities at 1585 cm\(^{-1}\) relative to background. The appearance of SERS signal in the green earth/casein layer (green) when probed under 20x objective, but not under 50x objective, suggests that this signal arises from excitation of SERS-633 tags located outside of the beam spot (i.e., localized to the French ochre/ovalbumin layer, see main text). Spectra are shown before baseline correction.