Supporting information for

Probing nucleus-enriched proteins in single living cells via subcellular-resolved plasmonic immunosandwich assay

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SUPPLEMENTARYDATA

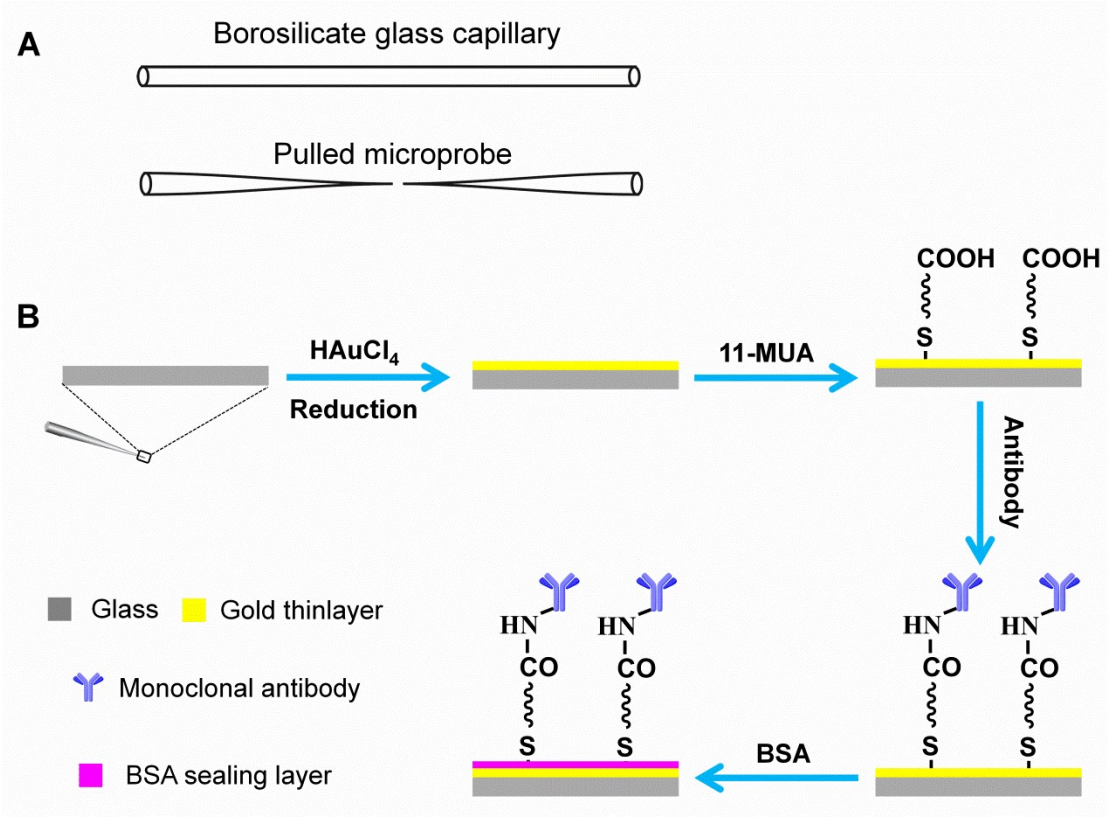

Fig. S1 Schematic of the procedures for fabrication of extraction microprobes. (A) Preparation of pulled microprobe by a laser-based pipette puller. (B) Fabrication of monoclonal antibody-functionalized gold-based extraction microprobes.

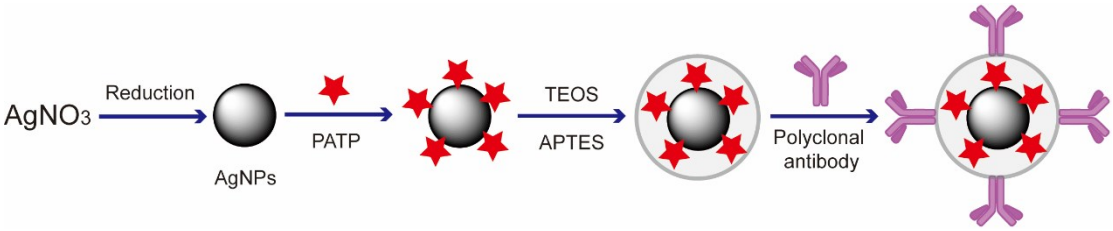

Fig. S2 The synthesis route of polyclonal antibody-functionalized silver-based plasmonic nanotags.

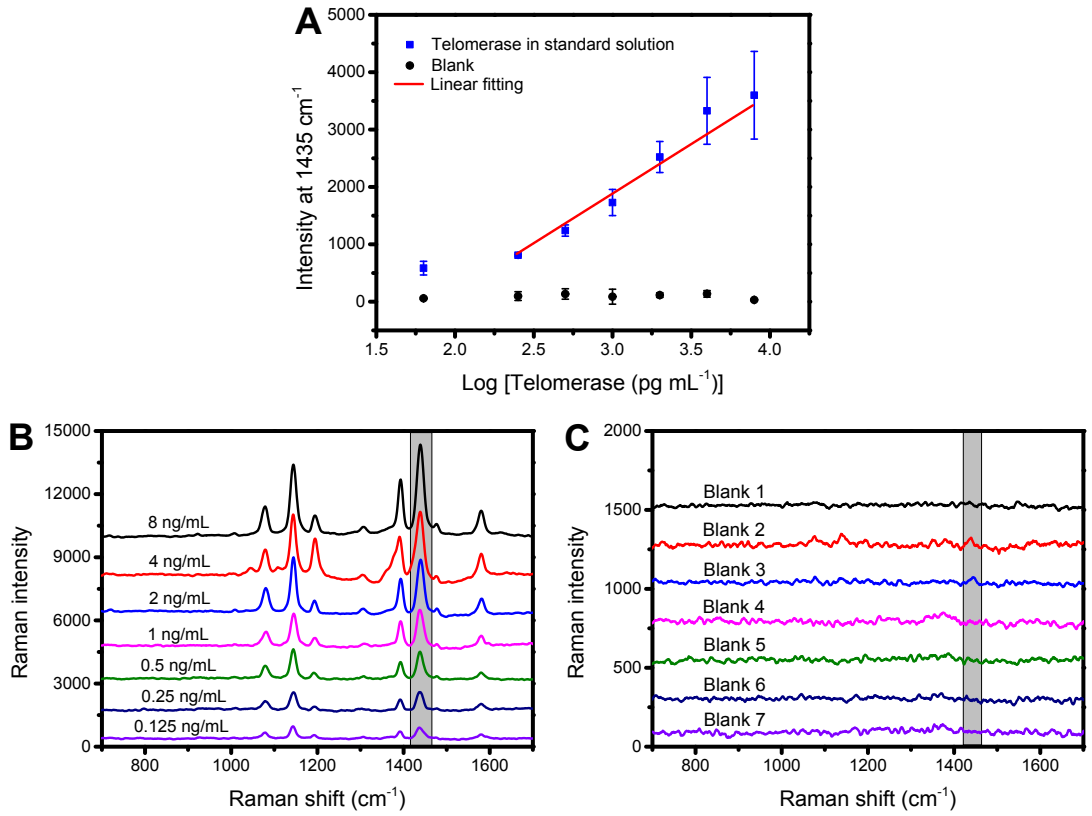

Fig. S3 Dependence of the Raman intensity at 1435 cm^{-1} detected by srPISA with telomerase standard solution. Blank sample: 100 mM phosphate buffer, pH 7.4. Error bars represent standard deviations for three parallel measurements. (B, C) Representative Raman spectra for telomerase detection in standard solutions and blank samples, respectively.

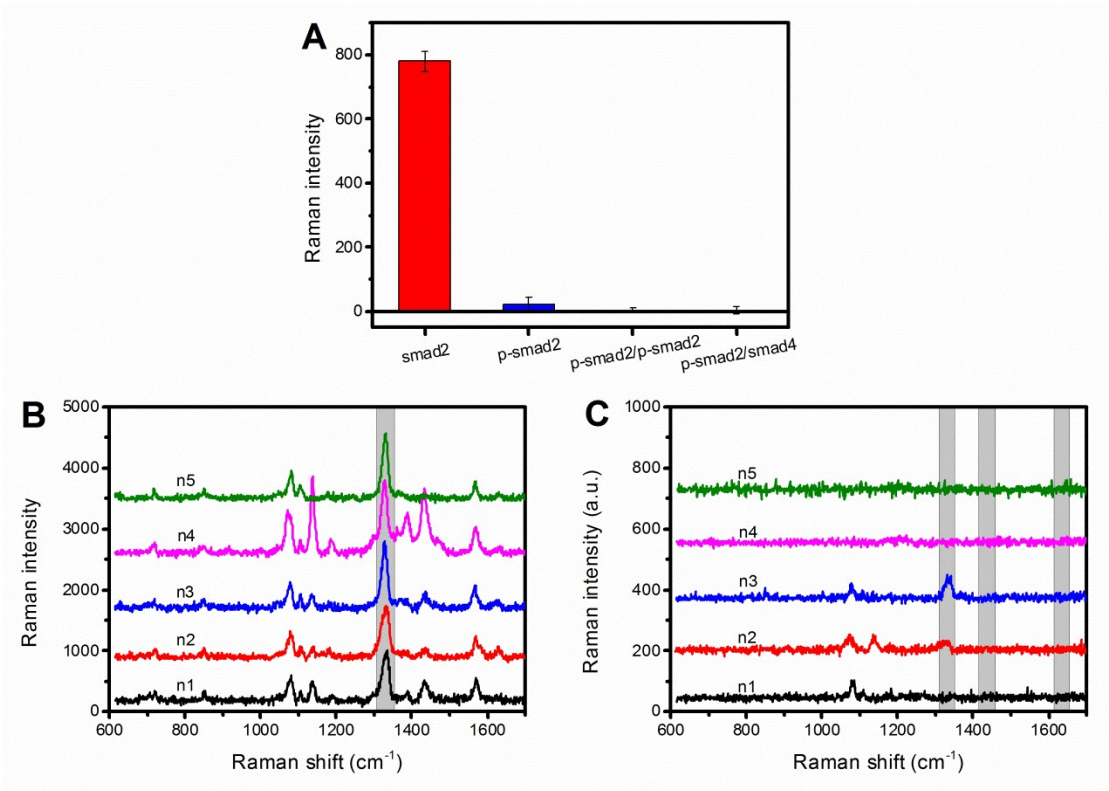

Fig. S4 Selectivity test of the srPISA approach in single living MCF-7 cells. (A) Raman intensity of target smad2 protein and its similar proteins, including monomeric phospho-smad2 (p-smad2), phospho-smad2 homomeric complexes (p-smad2/p-smad2) and phospho-smad2/smad4 heteromeric complexes (p-smad2/smad4). (B, C) Representative Raman spectra of selectivity test of the srPISA in single living MCF-7 cells for target smad2 protein and its similar proteins.

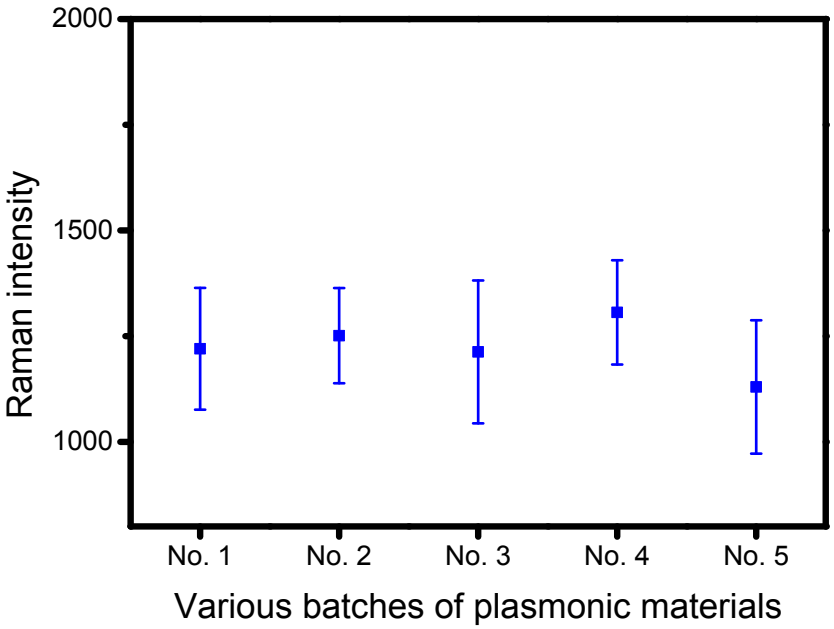

Fig. S5 Raman intensity variation for various batches of plasmonic materials for detecting telomerase in standard solution. Sample concentration: 500 pg/mL. Error bars represent standard deviations for three parallel measurements.