Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

Nanoslit-Concentration-Chip Integrated Miocrobead-based Protein Assay System for Sensitive and Quantitative Detection

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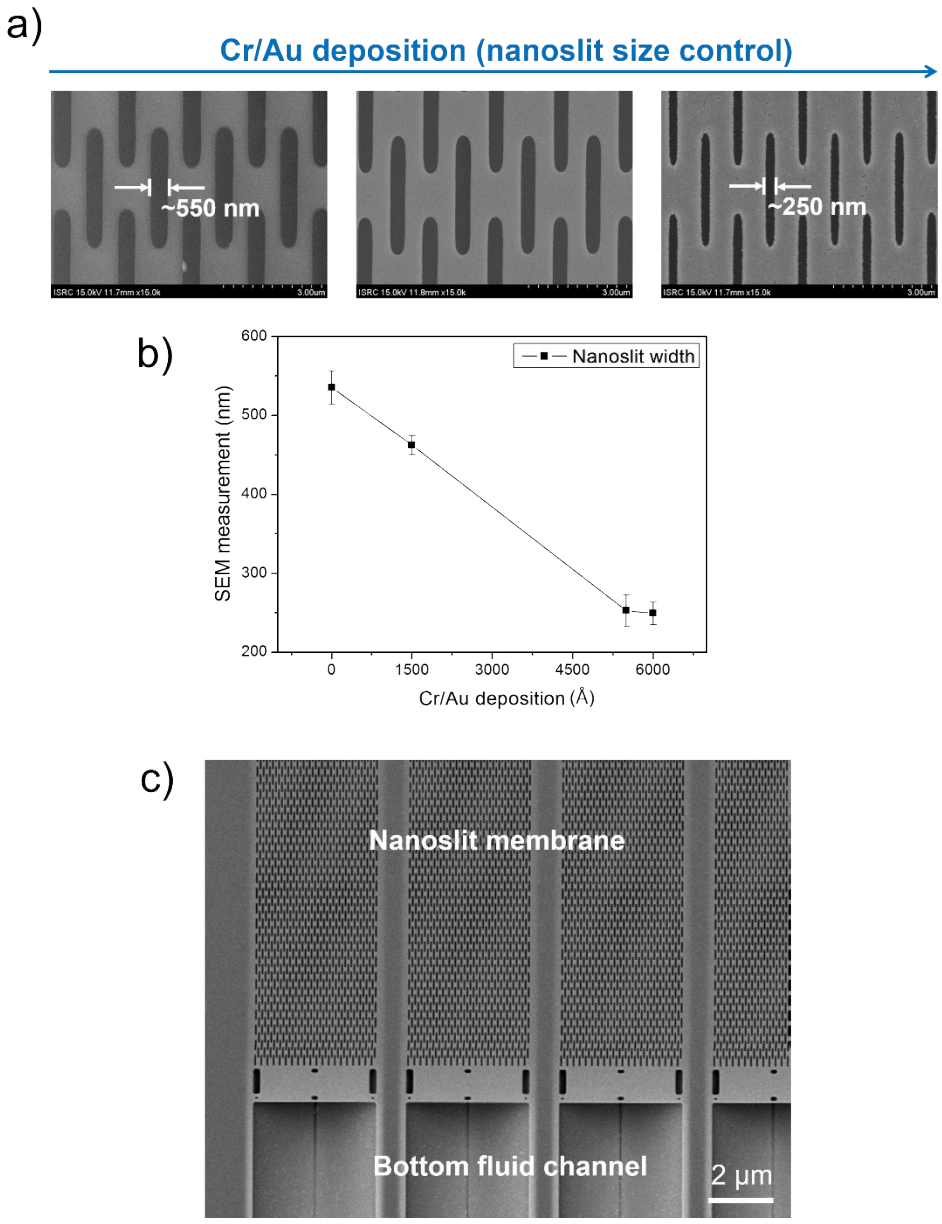


Figure S1. Fabrication results of the NC-Chip. a) SEM images during the Cr/Au sputtering process. b) The Nanoslit width profile during the Cr/Au sputtering process. c) SEM image of the nanoslit membrane and the bottom fluid channel.

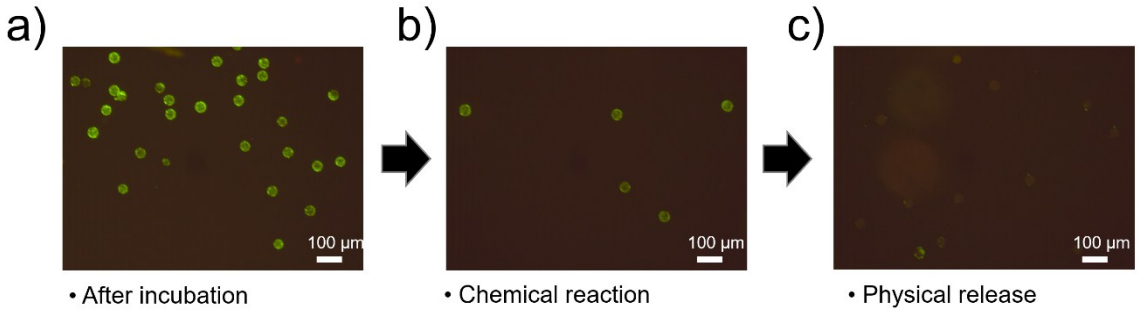


Figure S2. Off-chip test for Stav-FNPs releasing. Fluorescence images of microbeads after (a) incubation of 10^4 TG-Peptide with 10^8 Stav-FNPs, (b) formamide treatment for 1 h to induce denaturation of streptavidin and Stav-FNPs release, and (c) additional pressure-driven physical treatment.

• Off-chip Peptide-Streptavidin microbead assay
: 10^4/ml TG bead + $1.25*10^7$ ~ 10^8/ml Streptavidin coated fluorescent NP, 1hour incubation

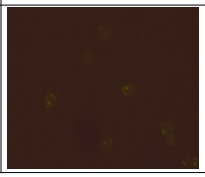
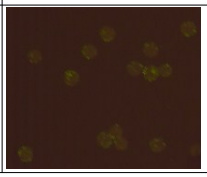
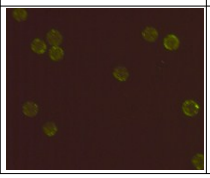
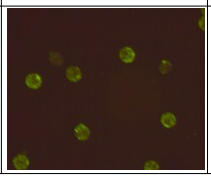
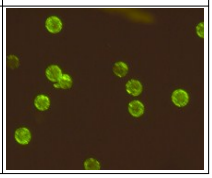
Target NP concentration	0	$1.25*10^7$	$2.5*10^7$	$5*10^7$	10^8
Microbeads					

Figure S3. Off-chip microbead assay for Peptide-Streptavidin binding. Fluorescence images after incubation of 10^4 TG-Peptide with Stav-FNPs (concentrations 1.25×10^7, 2.5×10^7, 5×10^7, 10^8 mL^{-1}).