

Colorimetric switchable linker-based bioassay for ultrasensitive detection of prostate-specific antigen as a cancer biomarker

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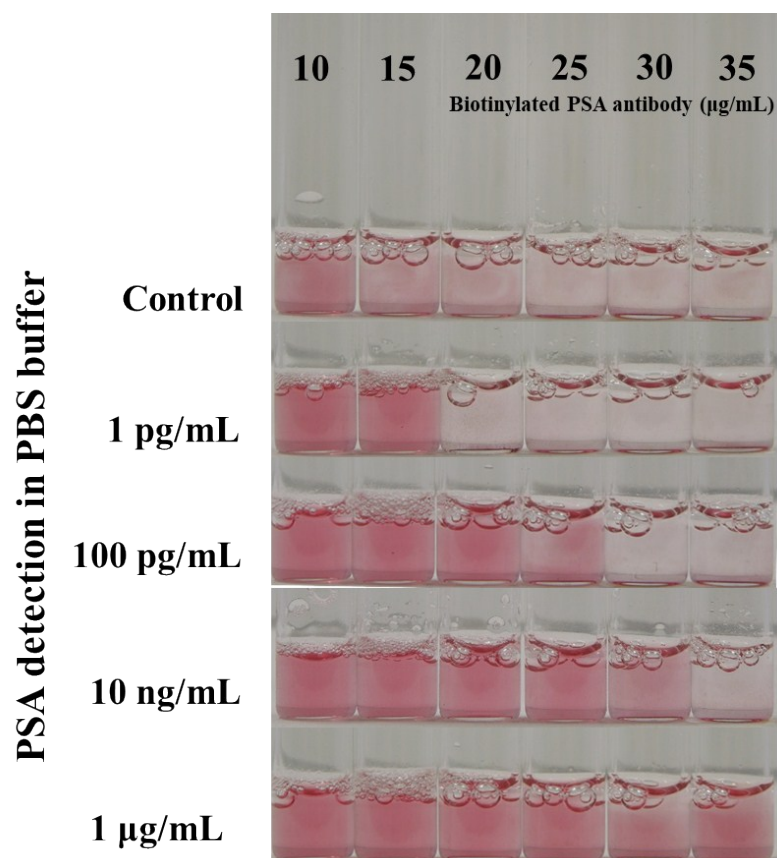


Fig. S1 REVC shifts to higher linker concentrations with the increase in PSA concentrations (from 1 pg/mL to 1 µg/mL) by 100-fold to confirm the broad detection range of the SL-based immunoassay in PBS buffer.

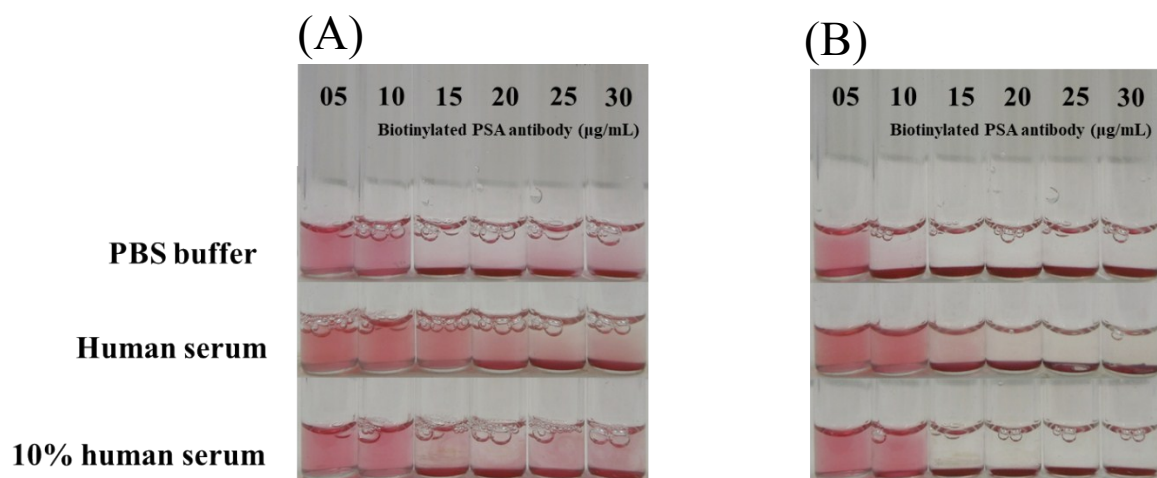


Fig. S2 The REVC difference in 3 control samples (PBS buffer, Human serum, and 10% human serum) after (A) 2 h and (B) overnight.

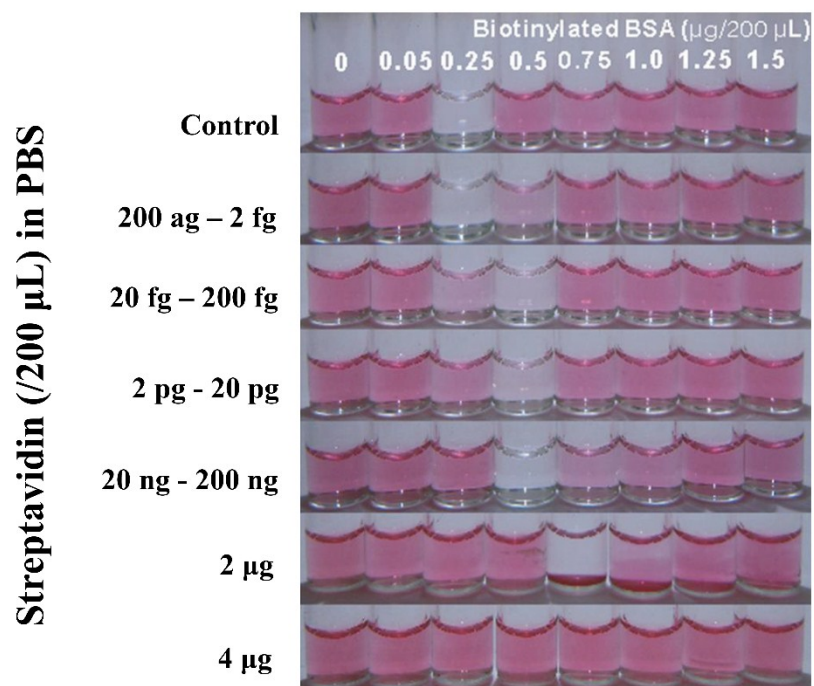


Fig. S3 Shift in REVC after 3 h of the SL-based assay for detecting streptavidin (from 200 ag/200 μL to 4 $\mu\text{g}/200 \mu\text{L}$) in PBS buffer using a fixed concentration of stAuNPs (absorption :0.21 at 531.5 nm for 1/10 dilution sample).

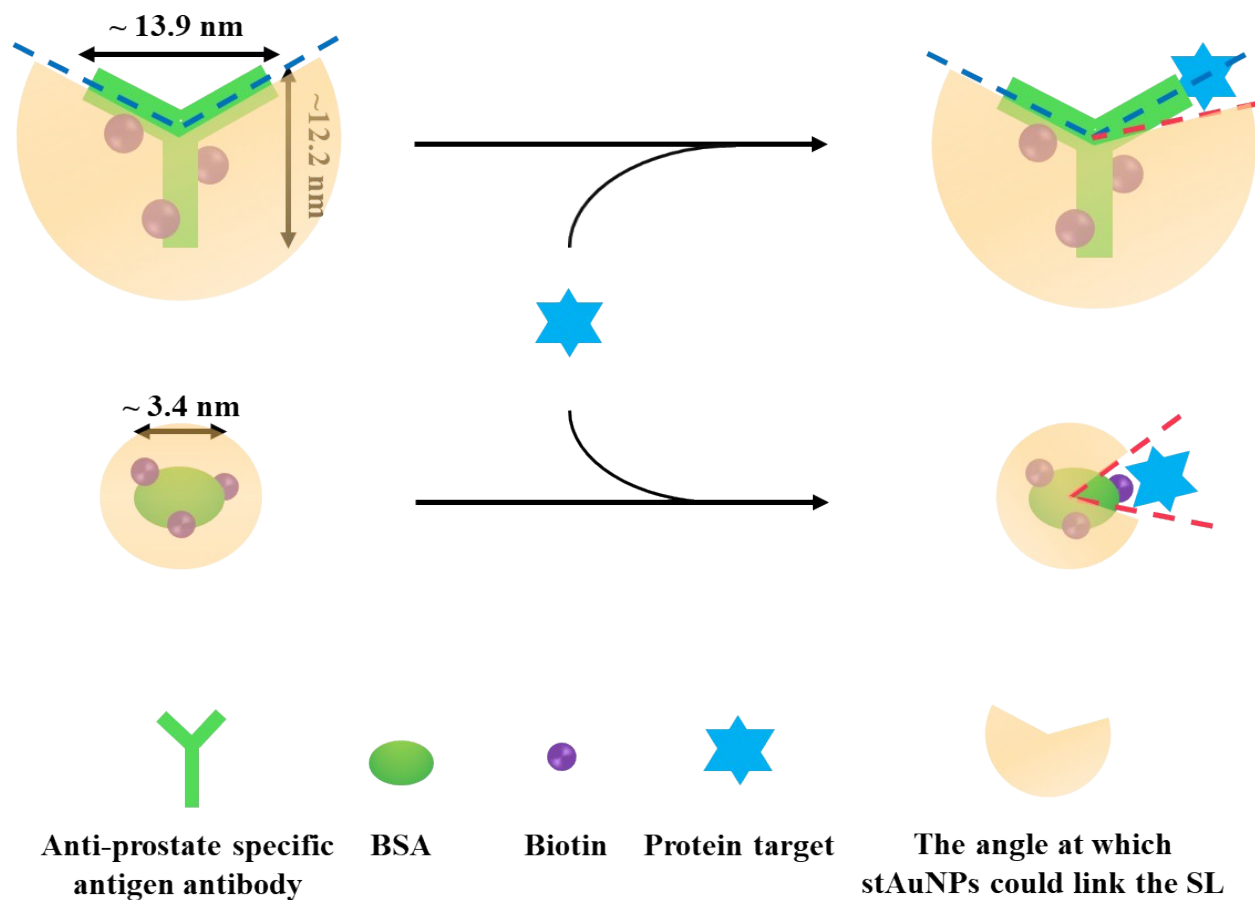


Fig. S4 Schematic representation of the physical difference between the switching off process in b-Ab and b-BSA. B-Ab has a determined target recognition site, whereas b-BSA has a target recognition site determined at random. Therefore, b-BSA is less affected by steric hindrance than b-Ab when bound to the stAuNPs in the switching-off situation.