

Supplementary Information

**Self-assembled Proteinticle Nanostructures for
3-dimensional Display of Antibodies**

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*Jin-Seung Park[†], and Jeewon Lee**

[¶] These authors contributed equally to this work

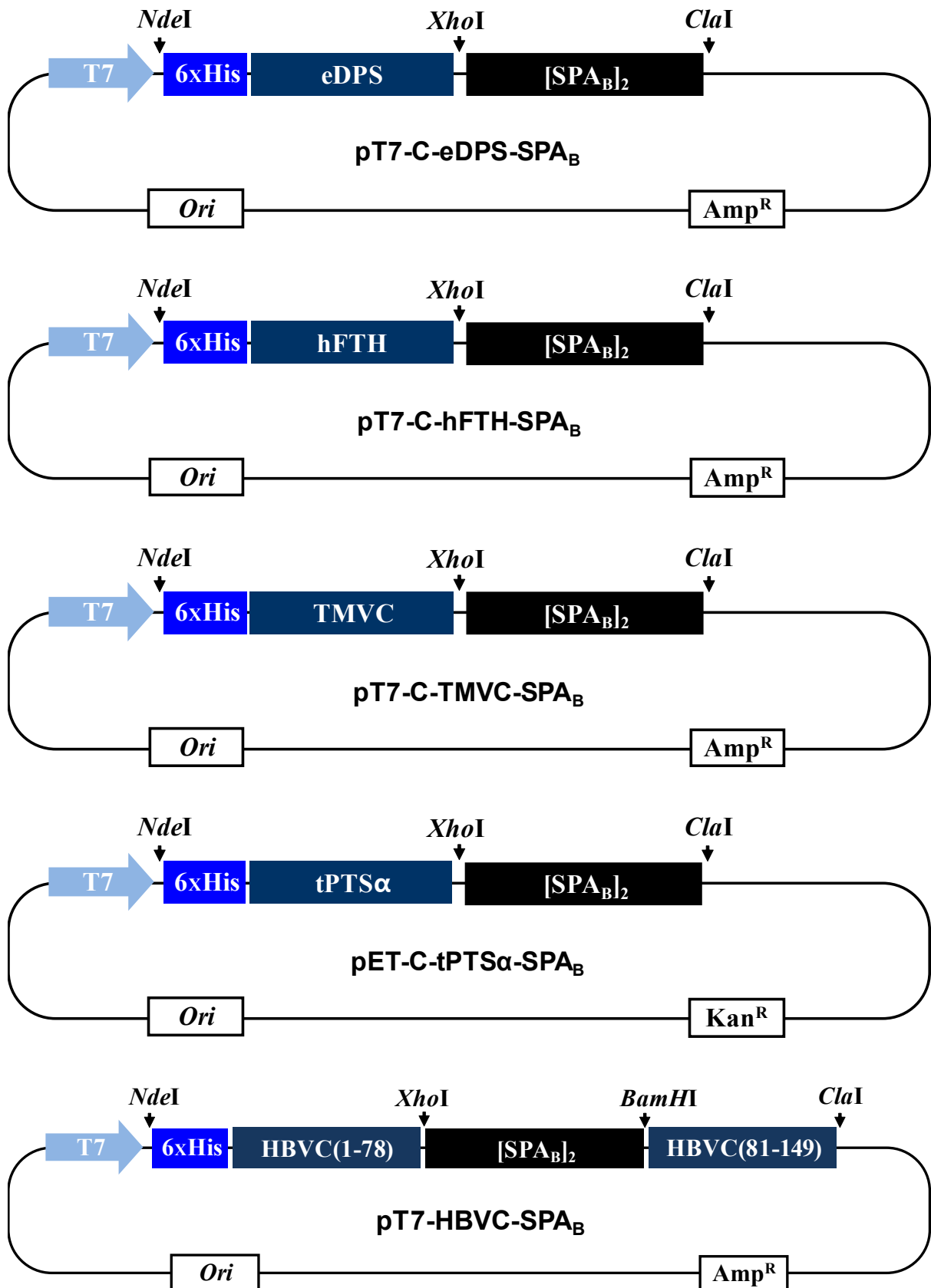
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Figure S-1



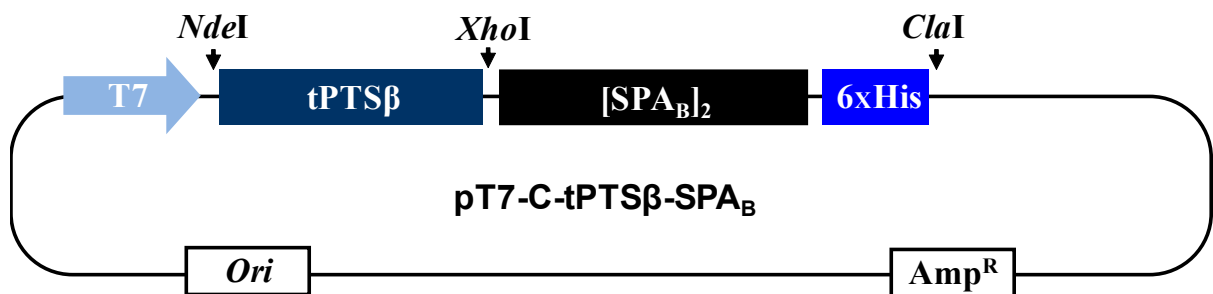
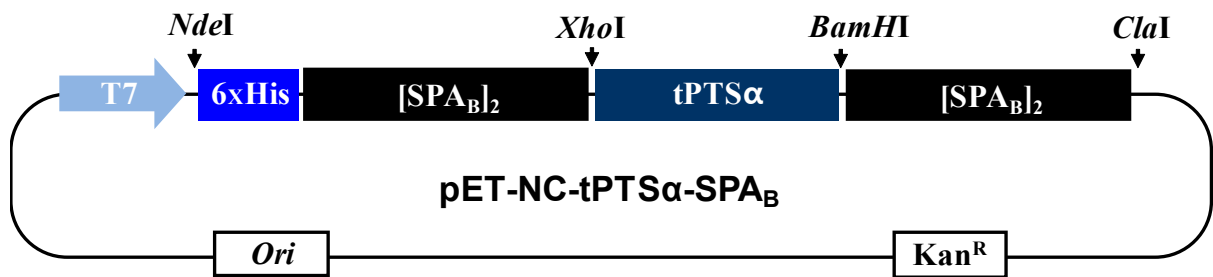
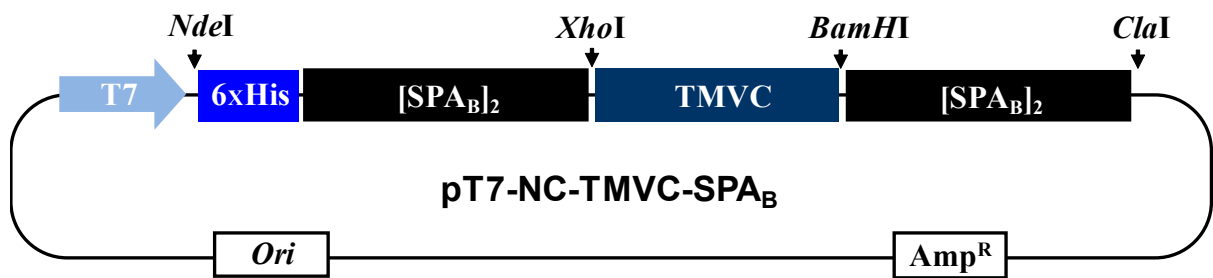
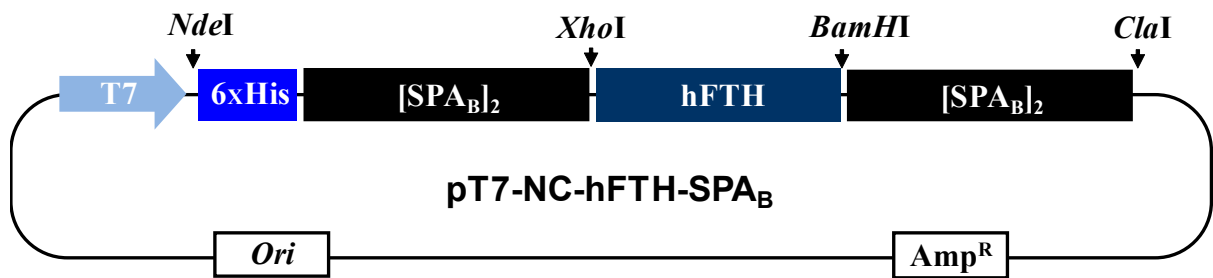
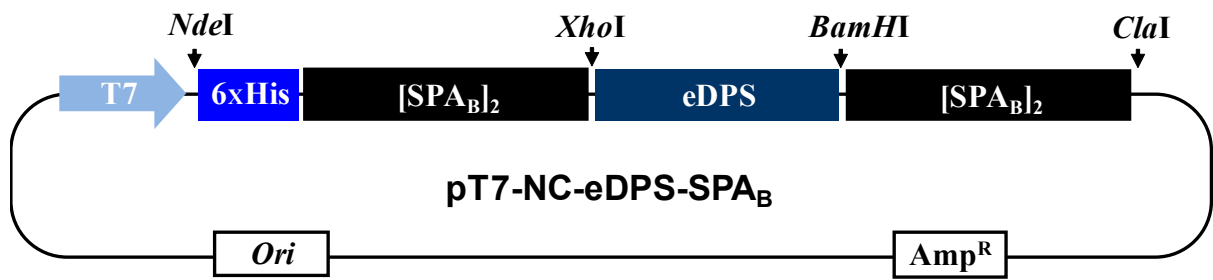


Figure S-2 (A)

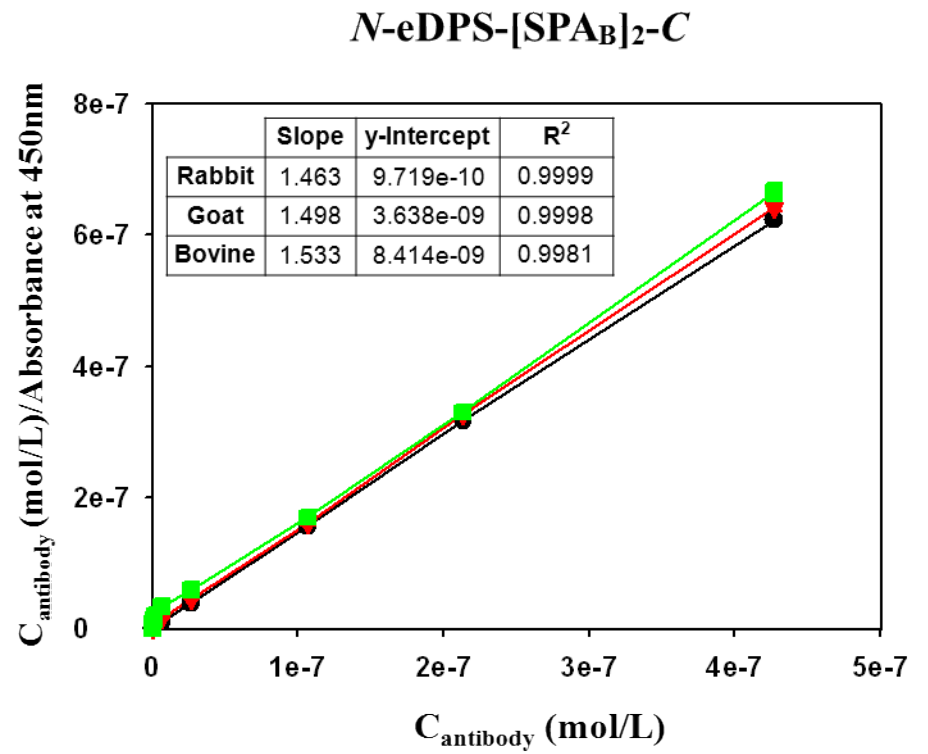
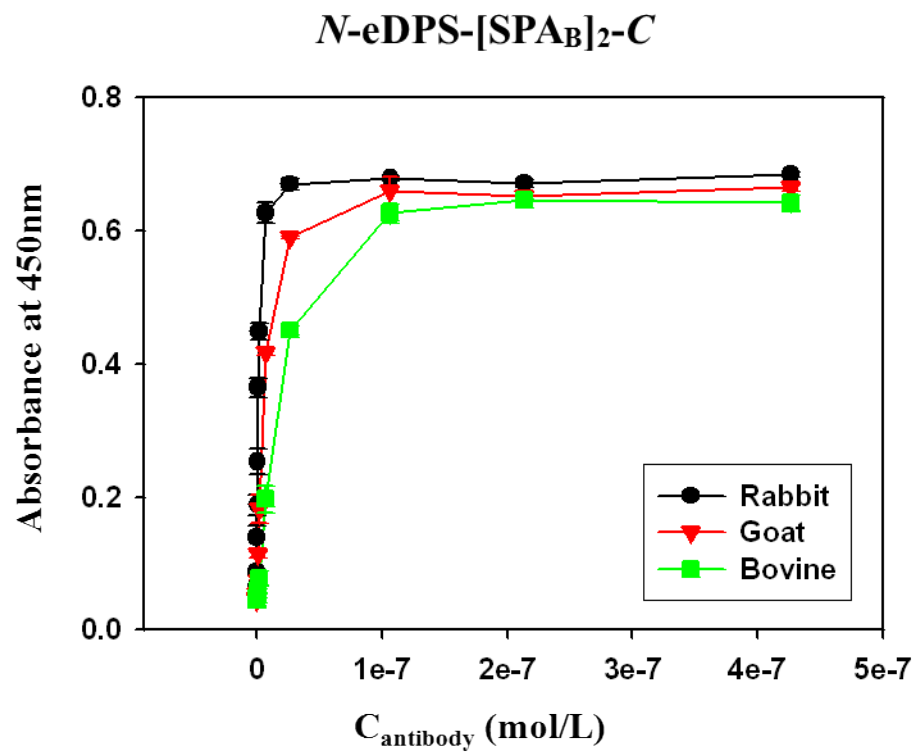


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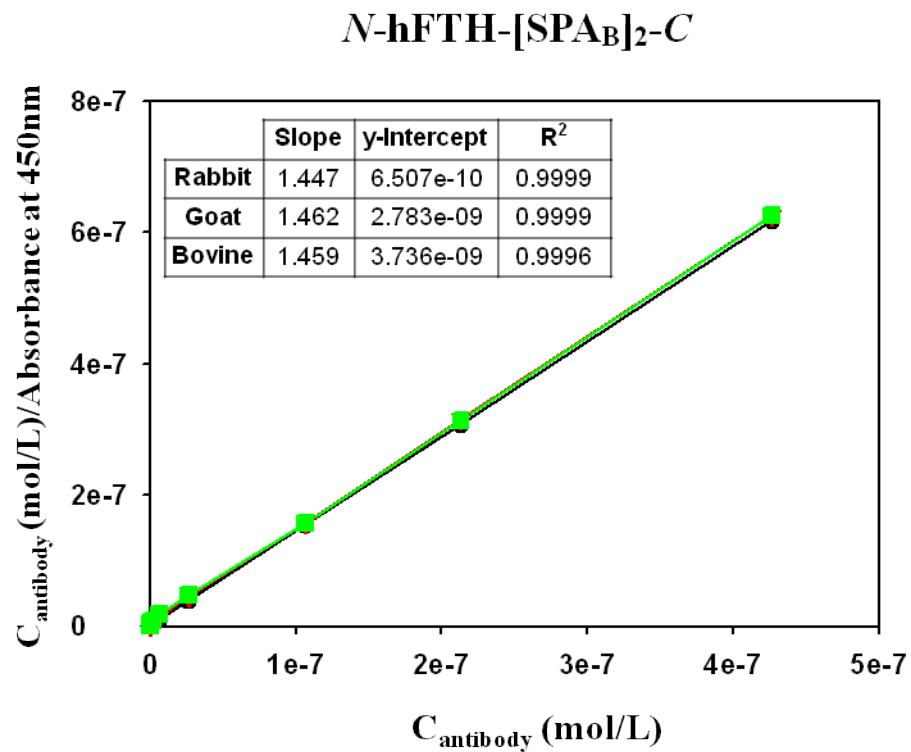
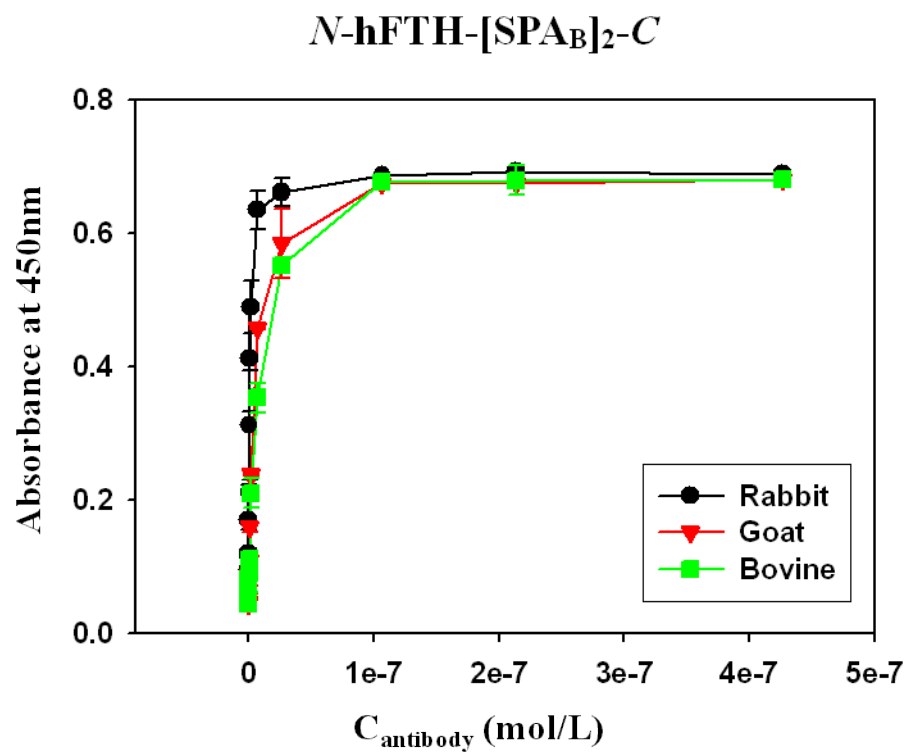


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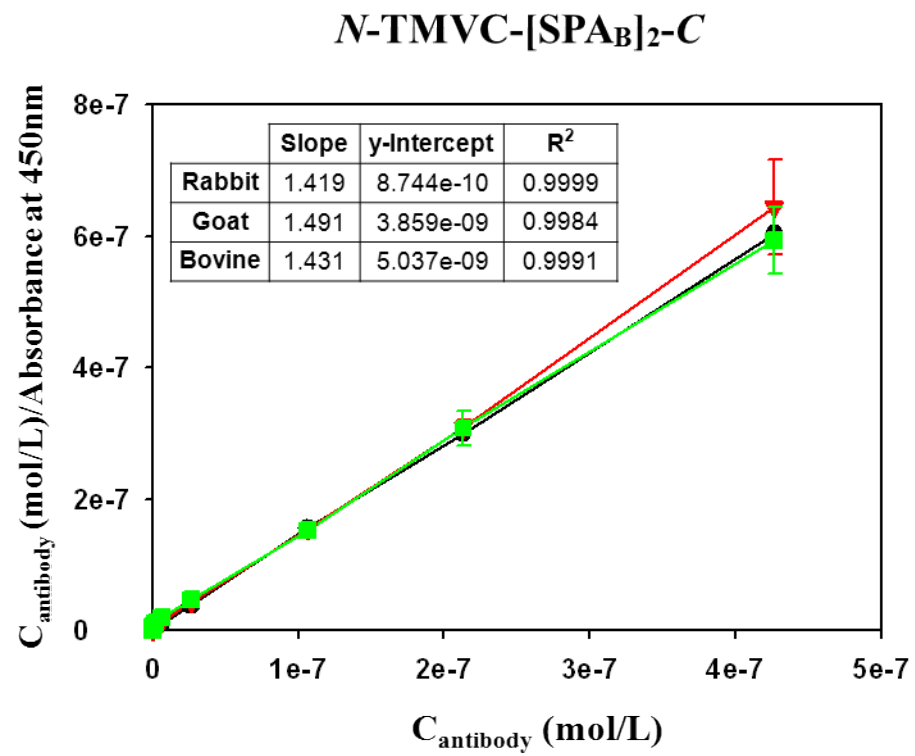
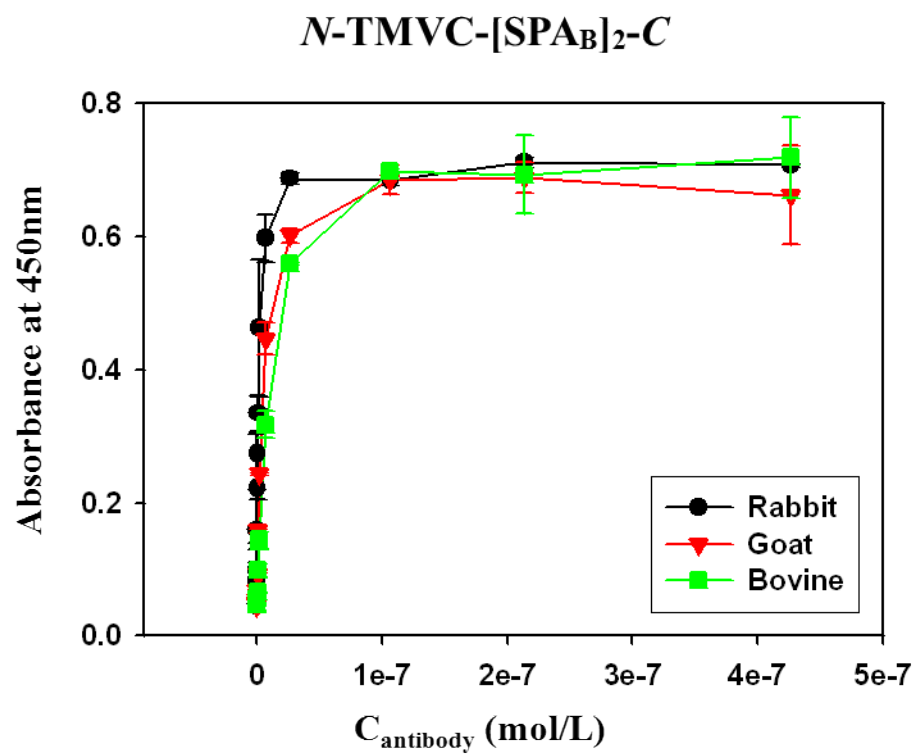


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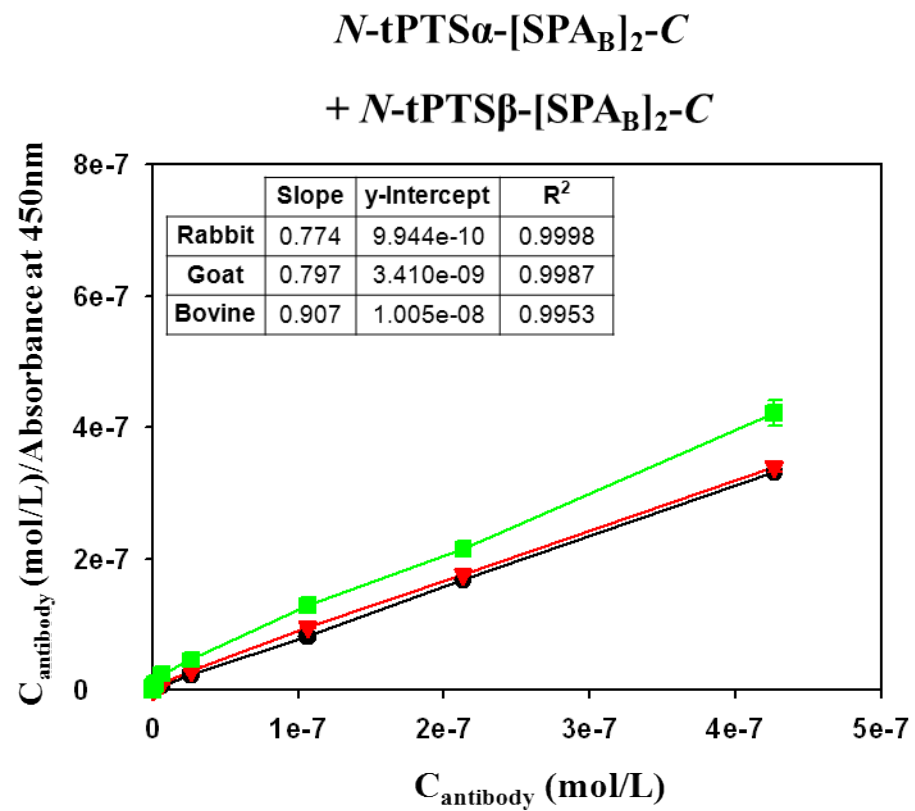
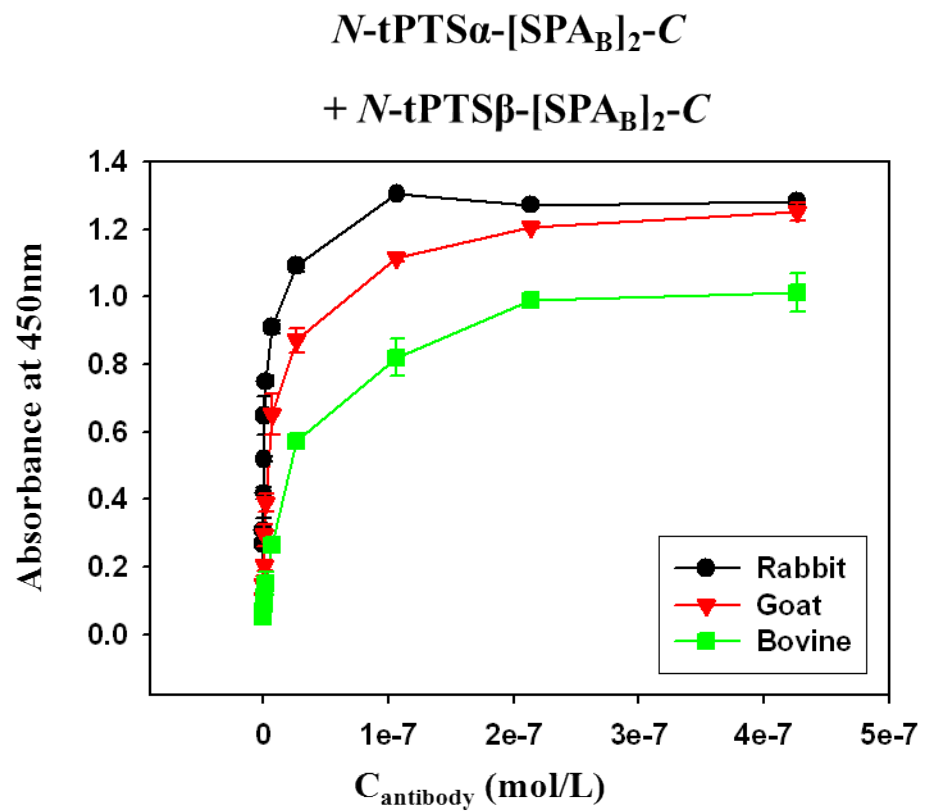


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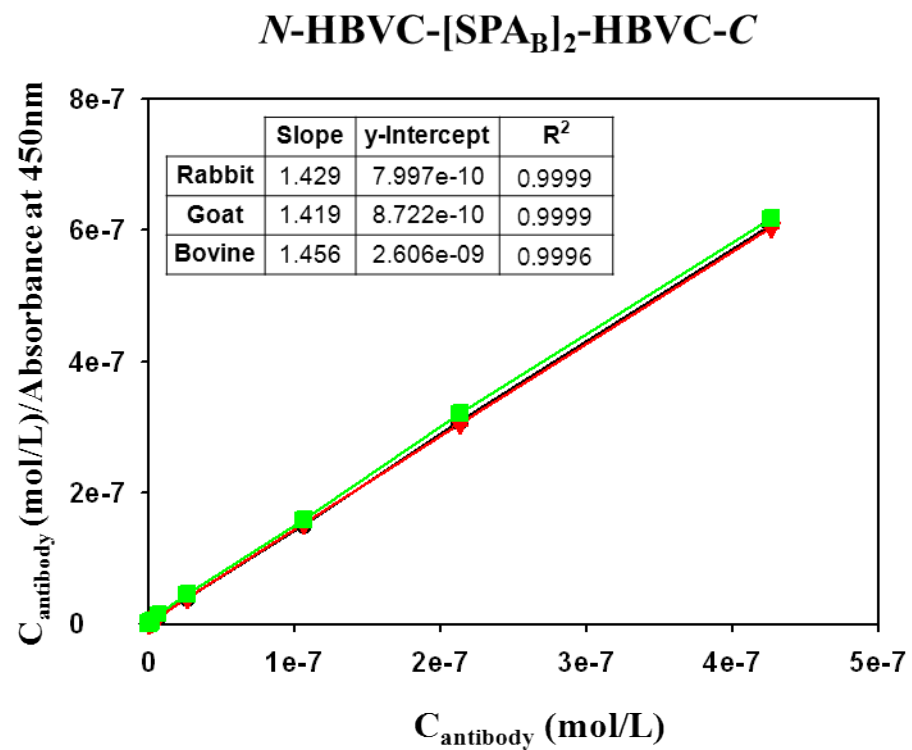
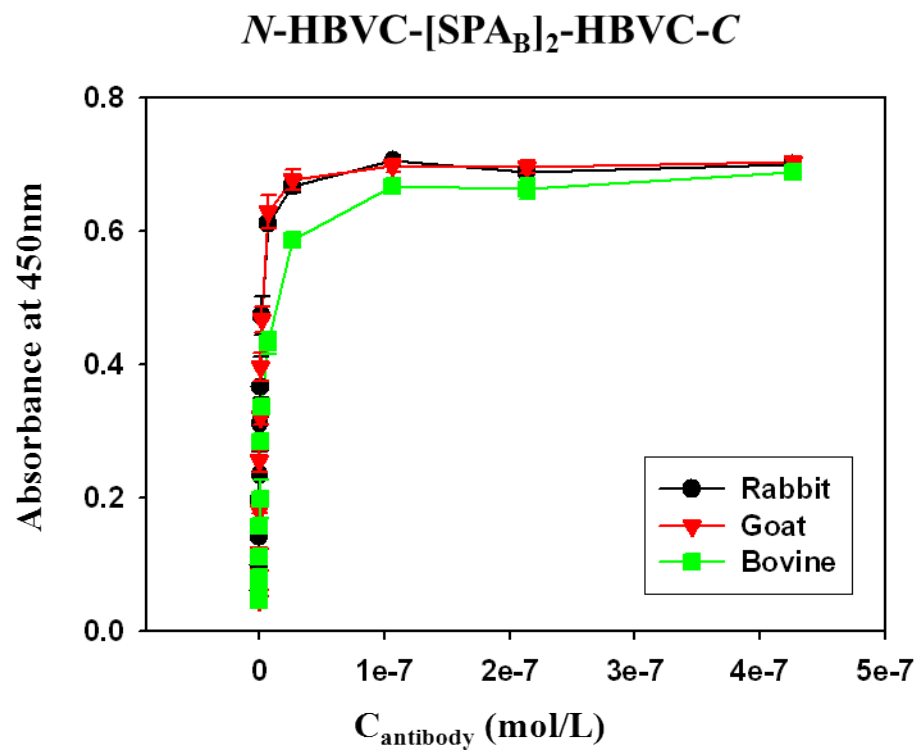


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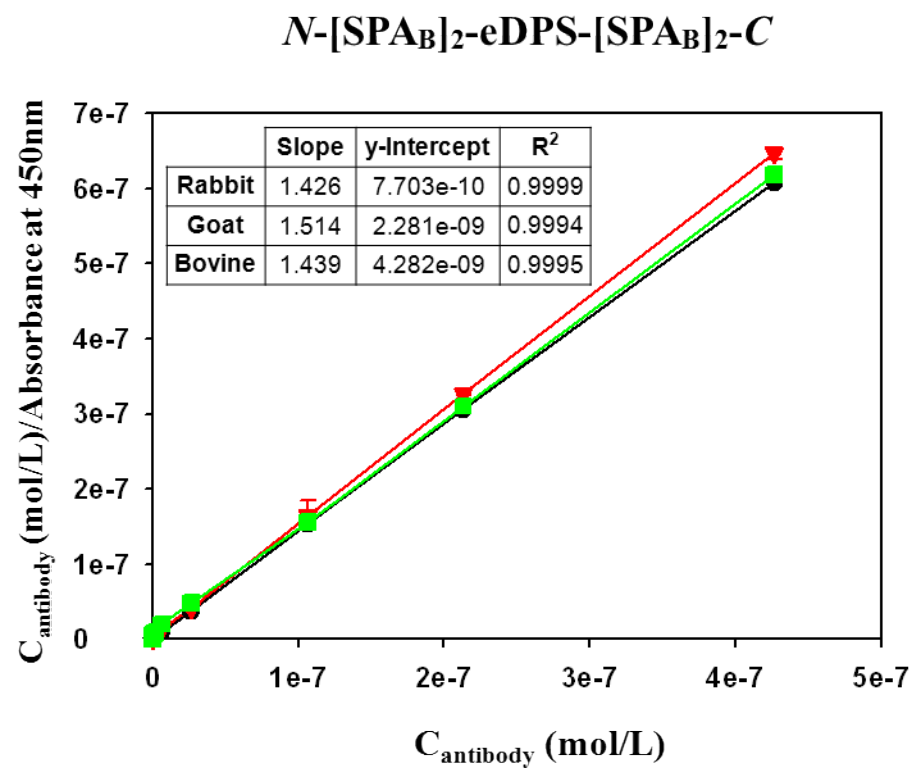
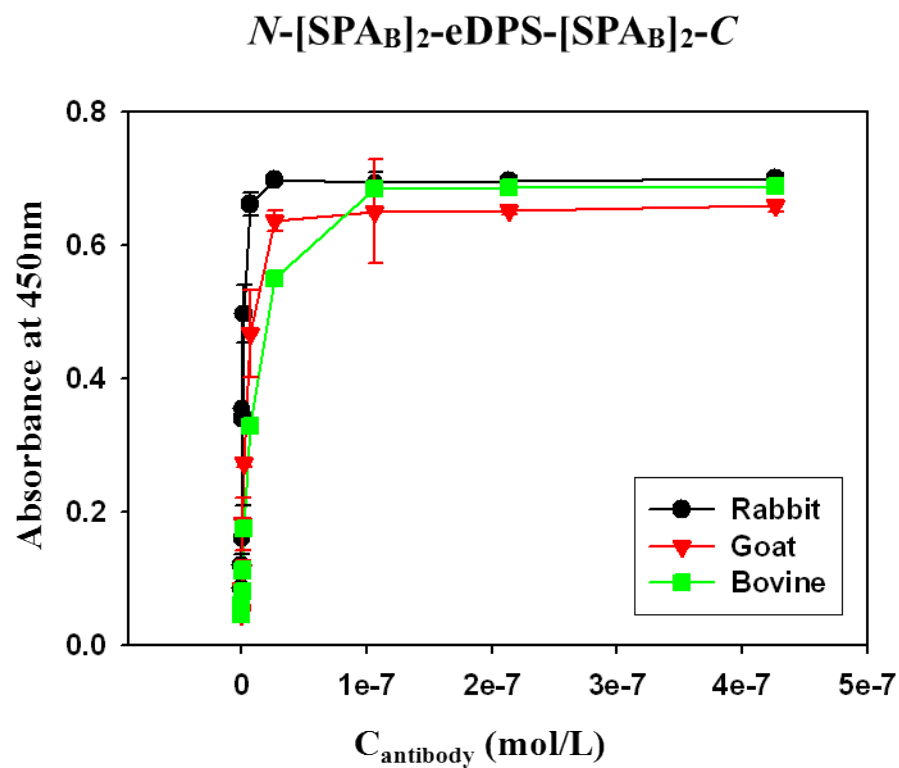


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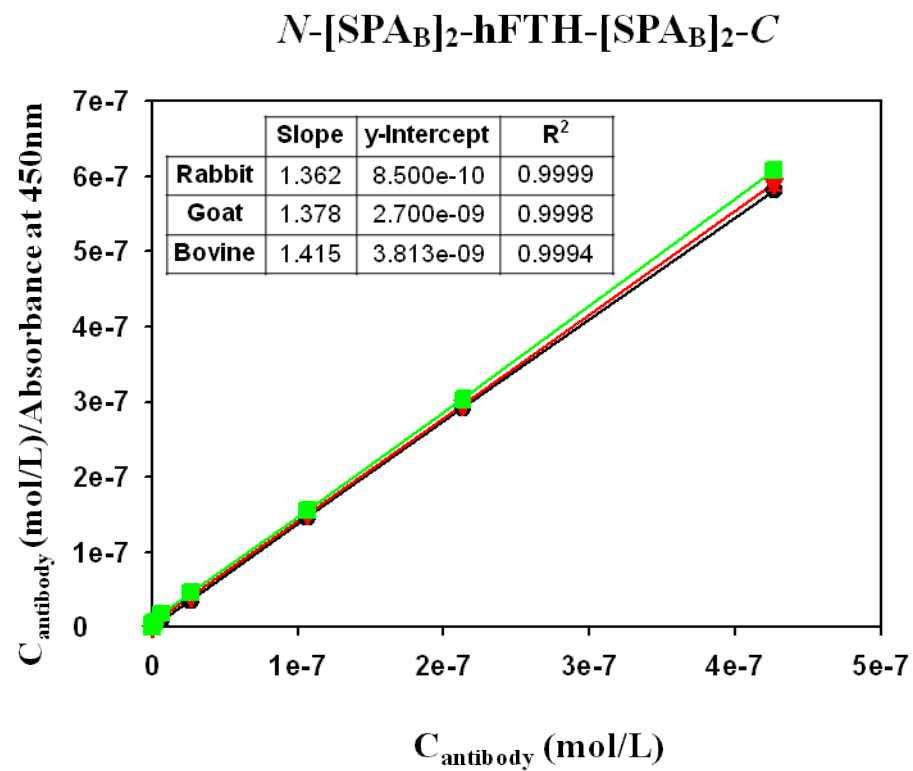
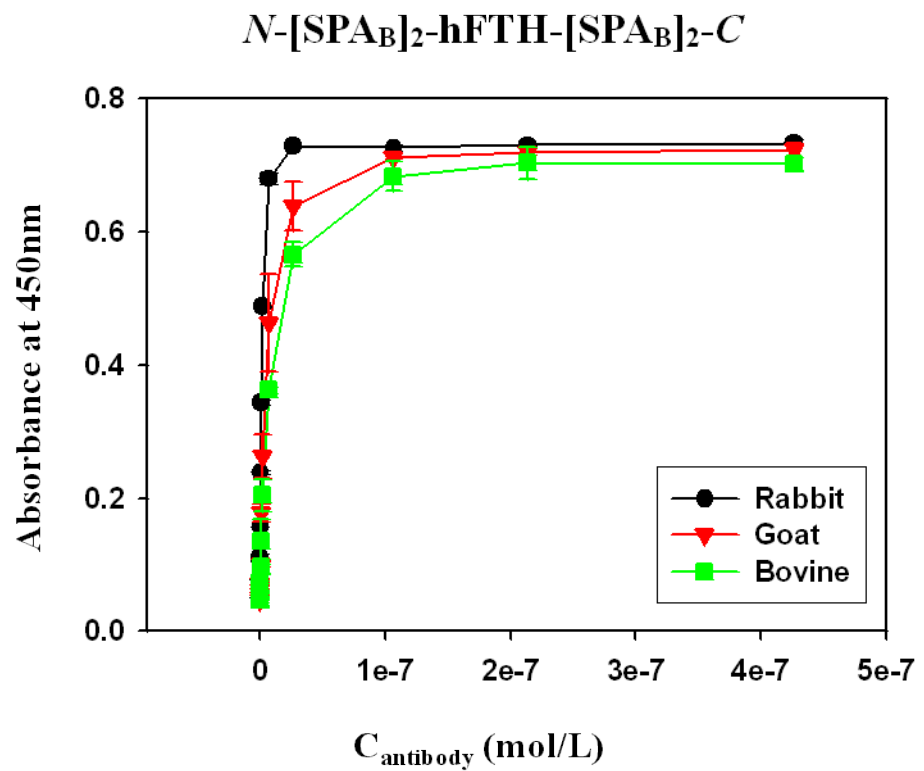


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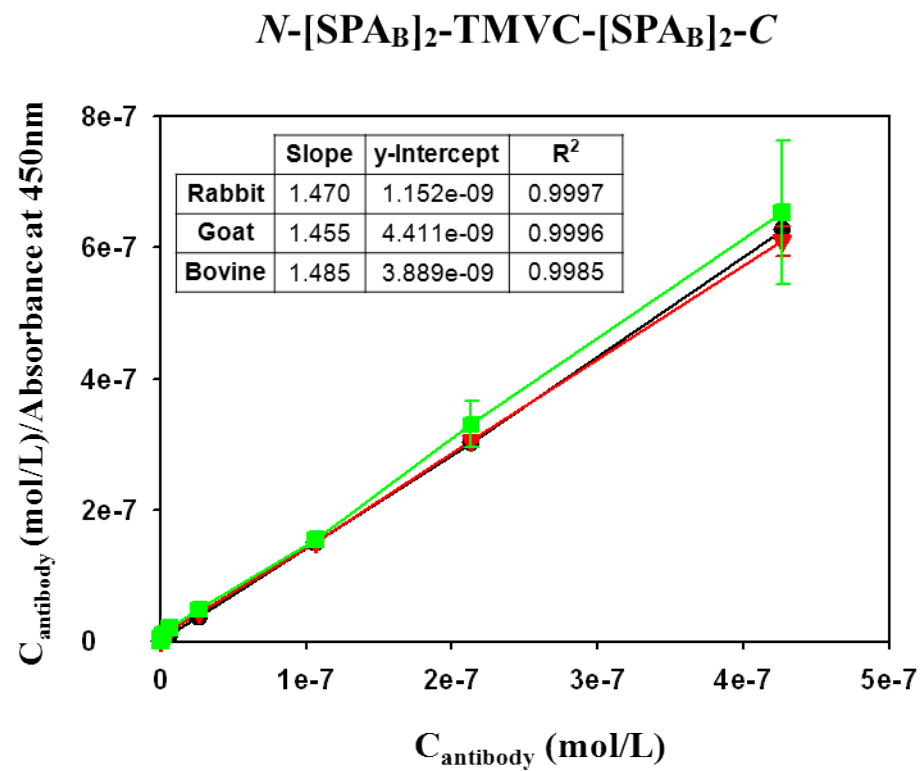
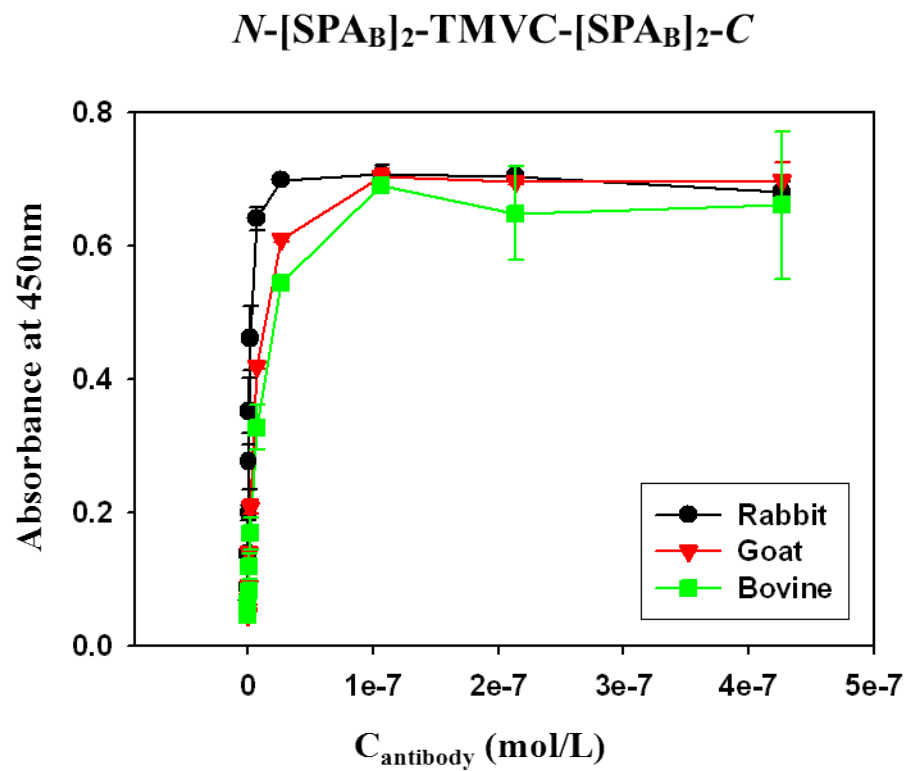


Figure S-2 (I)

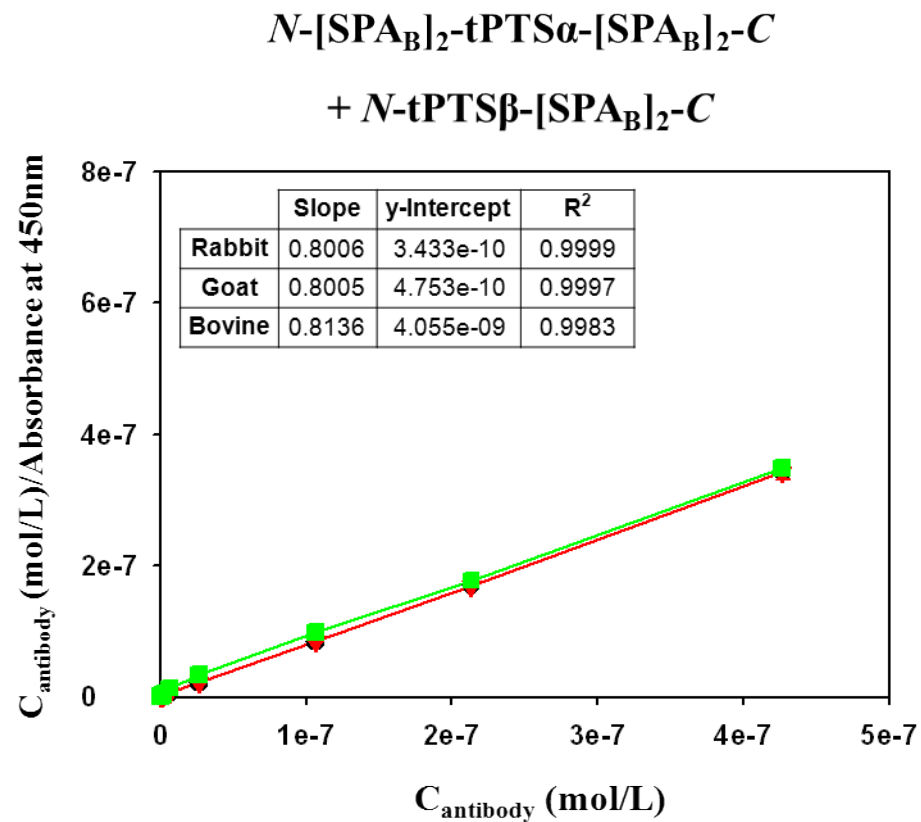
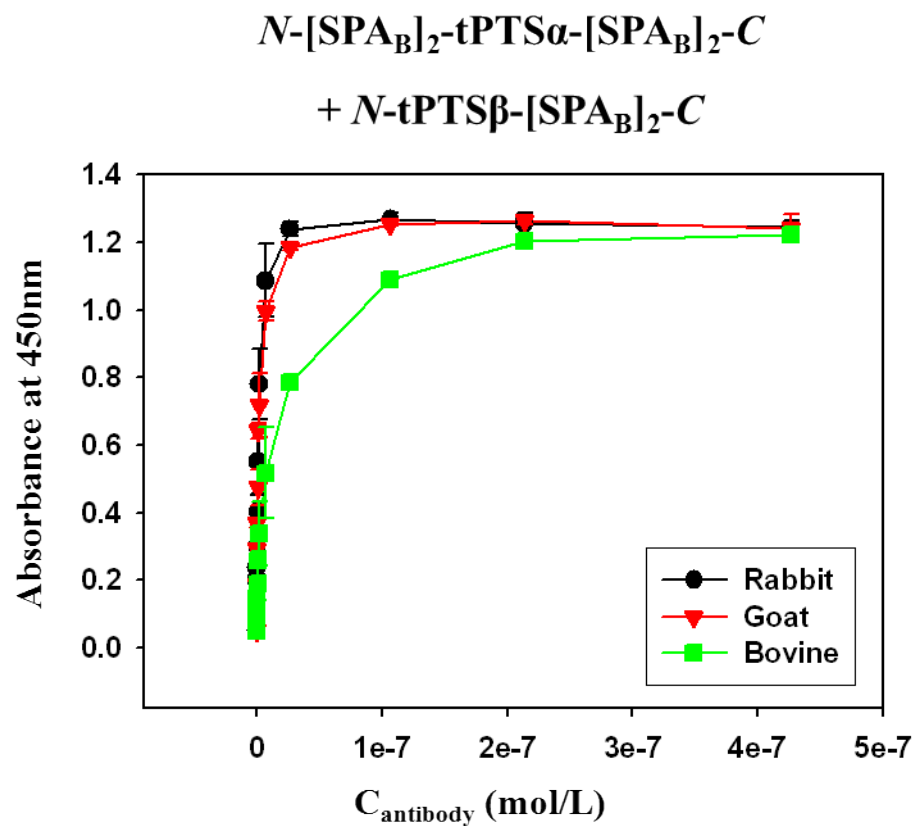
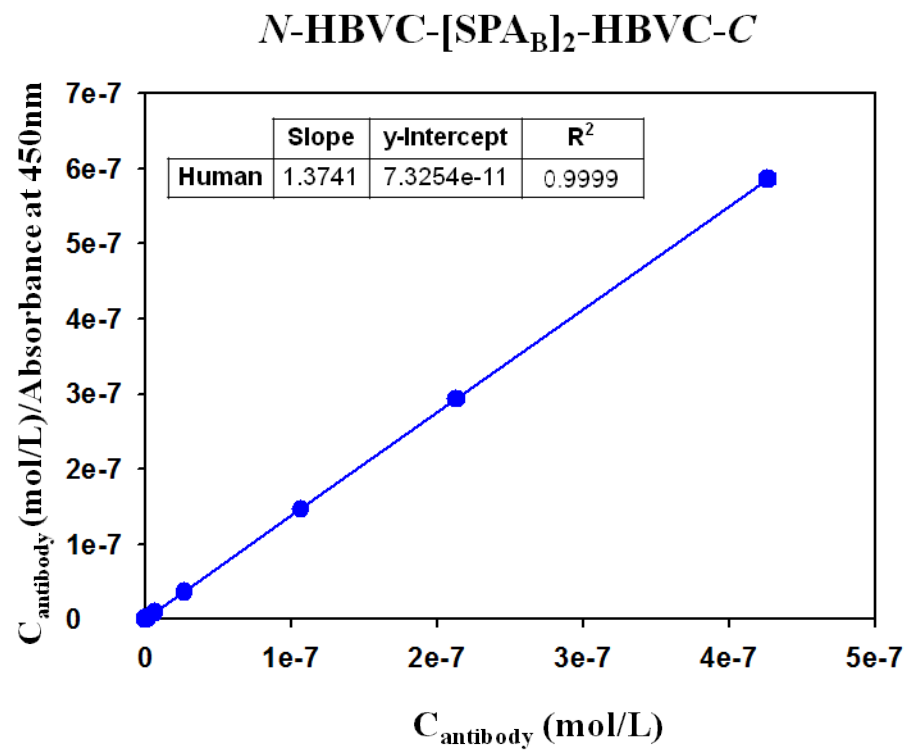
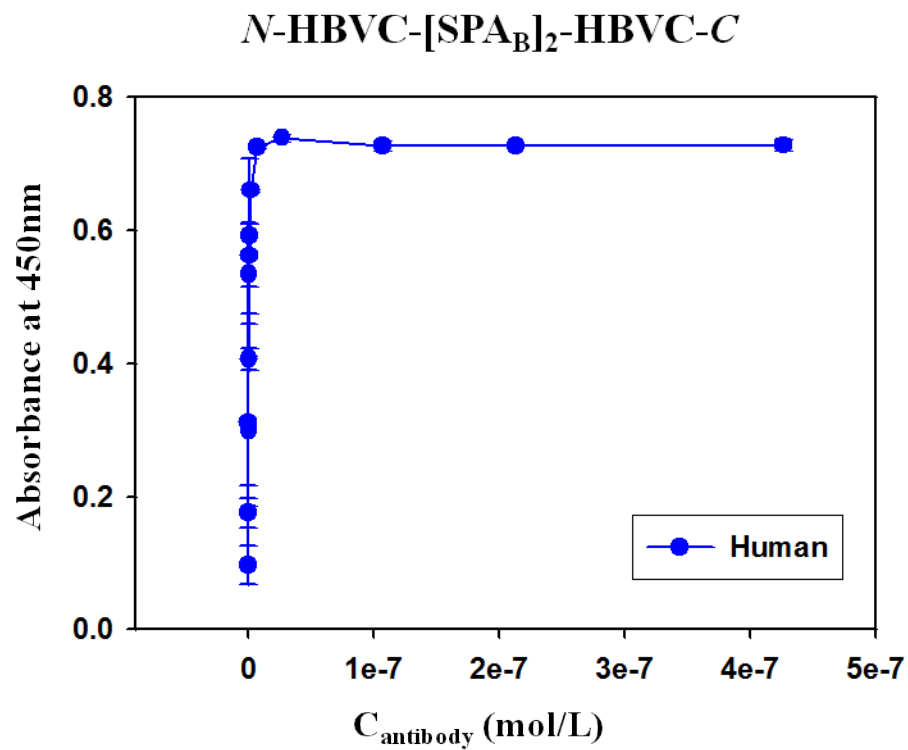
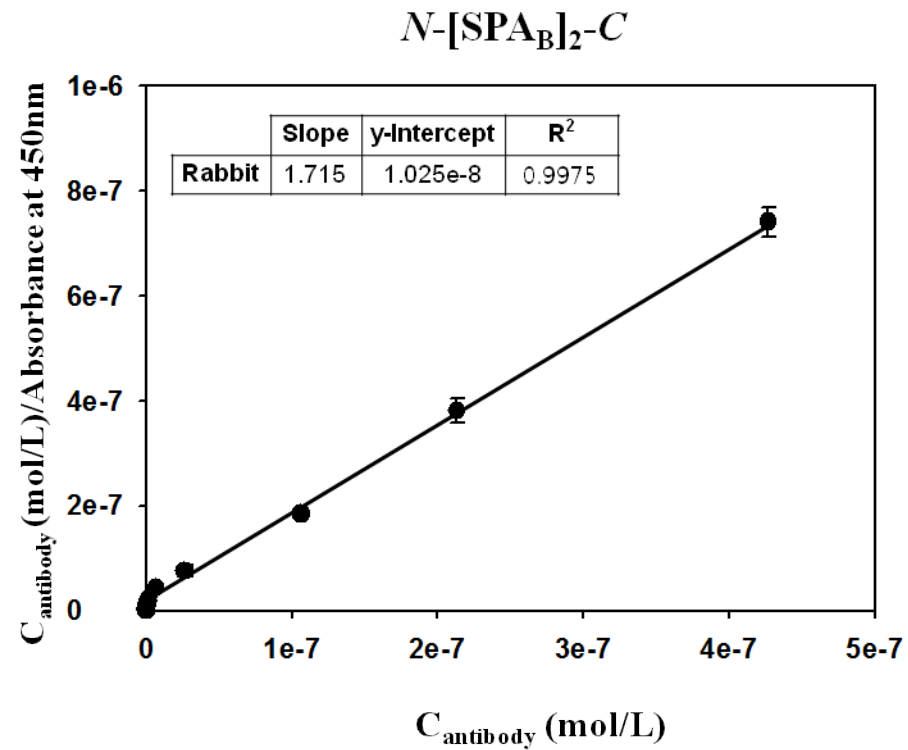
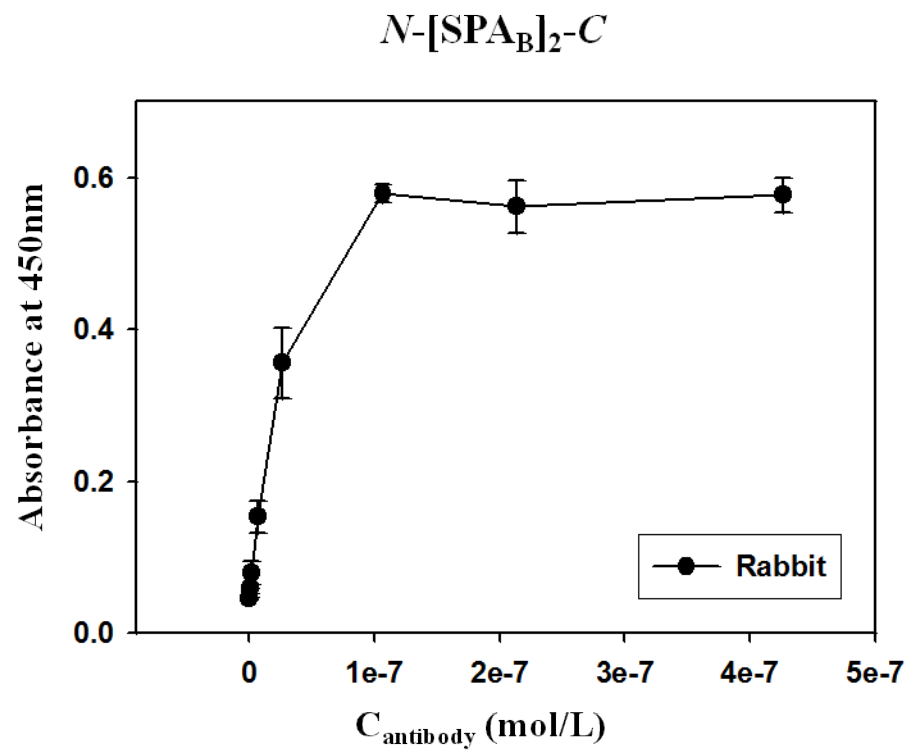


Figure S-3(A)



Estimated K_D : 0.53×10^{-10}

Figure S-3(B)



Estimated K_D : 59.77×10^{-10}

Supplementary Figure Legends

Figure S-1. Plasmid expression vectors used for the synthesis of surface-engineered proteinticles displaying SPA_B.

Figure S-2. Absorbance signals measured from HRP-IgG adsorbed on SPA_B on proteinticles (left) and re-plot of the measured absorbance signals by linearized form $[C/Abs = C/Abs(sat) + K_D/Abs(sat)]$, where C, Abs, Abs(sat), and K_D represent the concentration of HRP-IgG, absorbance signal, saturated absorbance signal, and dissociation constant, respectively] of Langmuir adsorption isotherm equation under the assumption that the adsorption of HRP-IgG on SPA_B follows Langmuir adsorption isotherm model (right). The tandem SPA_B, [SPA_B]₂ was genetically inserted to the surface of proteinticle that is synthesized in *E. coli* through the self-assembly of engineered subunit protein: **(A)** *N*-eDPS-[SPA_B]₂-C, **(B)** *N*-hFTH-[SPA_B]₂-C, **(C)** *N*-TMVC-[SPA_B]₂-C, **(D)** *N*-tPTS α -[SPA_B]₂-C + *N*-tPTS β -[SPA_B]₂-C, **(E)** *N*-HBVC-[SPA_B]₂-HBVC-C, **(F)** *N*-[SPA_B]₂-eDPS-[SPA_B]₂-C, **(G)** *N*-[SPA_B]₂-hFTH-[SPA_B]₂-C, **(H)** *N*-[SPA_B]₂-TMVC-[SPA_B]₂-C, and **(I)** *N*-[SPA_B]₂-tPTS α -[SPA_B]₂-C + *N*-tPTS β -[SPA_B]₂-C.

Figure S-3. **(A)** Absorbance signals measured from human HRP-IgG adsorbed on SPA_B on HBVC (left) and re-plot of the measured absorbance signals by linearized form of Langmuir adsorption isotherm equation (right). **(B)** Absorbance signals measured from rabbit HRP-IgG adsorbed on (SPA_B)₂, directly immobilized onto porous hydrogel without proteinticles (left) and re-plot of the measured absorbance signals by linearized form of Langmuir adsorption isotherm equation (right).