

Supplementary information

Penicillin-like mimotopes from autodisplayed Fv-antibody library inhibiting β -lactamase activity

Hyung Eun Bae^a, Jaeyong Jung^a, Jeong Soo Sung^a, Soonil Kwon^a, Min-Jung Kang^b, Joachim Jose^c, Jae-Chul Pyun^{a,*}

^a Department of Materials Science and Engineering, Yonsei University, 50 Yonsei-Ro, Seodaemun-Gu, Seoul, 03722, Korea

^b Korea Institute of Science and Technology (KIST), Seoul, 02792, Korea

^c Institute of Pharmaceutical and Medical Chemistry, Westfälischen Wilhelms-Universität Münster, Muenster, 48149, Germany

*To whom correspondence should be addressed

*Corresponding author: Jae-Chul Pyun, Tel.: +82 2 2293 5509; Fax: 82 2 312 5375; Email: jcpyun@yonsei.ac.kr

Fig. S1

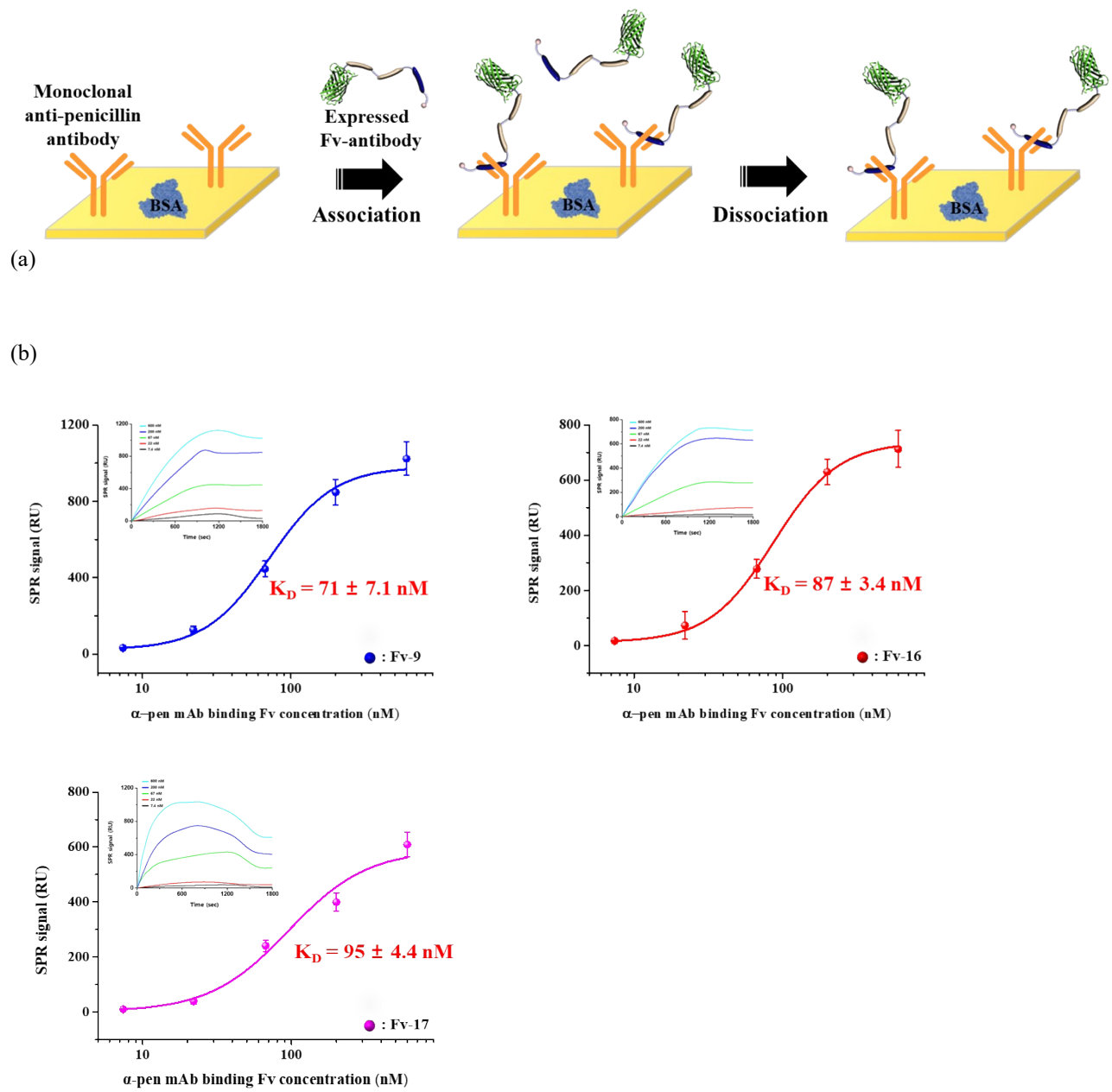


Table S1. Sequence of the primer used for the randomized CDR3 region in the Fv-antibody library.

Type of Primer	Oligonucleotide sequence
Randomized forward primer (75 bases)	5'-GTCTATTATTGCGCTCGT ¹ KRYVNN ⁷ VNNVNN ¹³ VNNVNN ¹⁹ VNNVNN ²⁵ VNNGAT ³¹ KWYTGGGGTCAAGGTACTACGGTTACG-3'
Reverse primer (22 bases)	3'-CCCAGTTCCATGATGCCAATGC-5'
The nucleotide makeup at each position	K = G, T / R = A, G / Y = C, T / V = A, C, G / N = A, C, G, T / W = A, T

Table S2. The amino acid sequence of the Fv antibody includes the following components in order: N-terminal FR1, CDR1, FR2, CDR2, FR3, CDR3, FR4, and C-terminal.

Region	Amino acid (N-term → C-term)	Oligonucleotide sequence (5' → 3')
Frame-1	EVQLVESAAEVRPGLASVKITCKASGYSFS	GAA GTG CAG CTC GTG GAA AGC GCT GCC GAA GTT CGG CGT CCT GGG GCT AGC GTG AAG ATC ACC TGC AAA GCG TCC GGC TAT TCA TTC AGC
CDR1	TYGIQ	ACC TAT GGG ATT CAG
Frame-2	WMRQAPGQRPEWL	TGG ATG CGC CAA GCG CCA GGC CAG CGT CCG GAA TGG CTT GGG
CDR2	WIHAGTGGTKYSRKFG	TGG ATA CAT GCA GGC ACA GGT GGG ACT AAG TAC TCG CGC AAA TTT CAG GGT
Frame-3	RITITRDTSANTVYLDLNSLTSEDVAVYYCAR	CGC ATT ACT ATC ACC CGT GAT ACC AGC GCG AAT ACC GTC TAT CTG GAT CTG AAC TCT CTG ACA TCG GAG GAT ACG GCC GTC TAT TAT TGC GCT CGT
CDR3 (Template)	DKVTWACQDN	GAC AAA GTT ACA GTC TGG GCT TGT CAG GAT AAT
Frame-4	WGQGTTTVSS	TGG GGT CAA GGT ACT ACG GTT ACG GTC AGC AGT