

Supporting Information

A Lung-Targeted Self-Assembled Supramolecular nanofiber for Synergistic Therapy of Idiopathic Pulmonary Fibrosis

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S1. Supplementary Figures

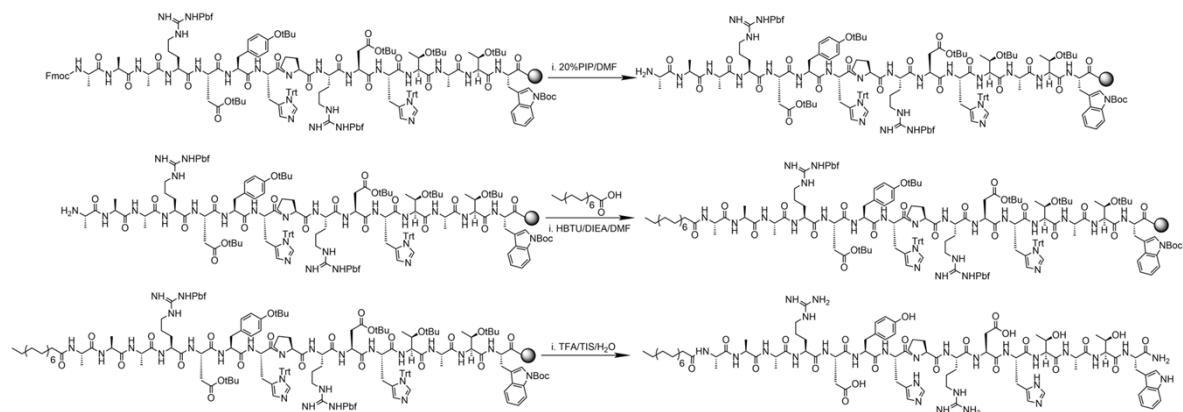


Figure S1. Flowchart of the Coupling Process of Fatty Chains and Peptides

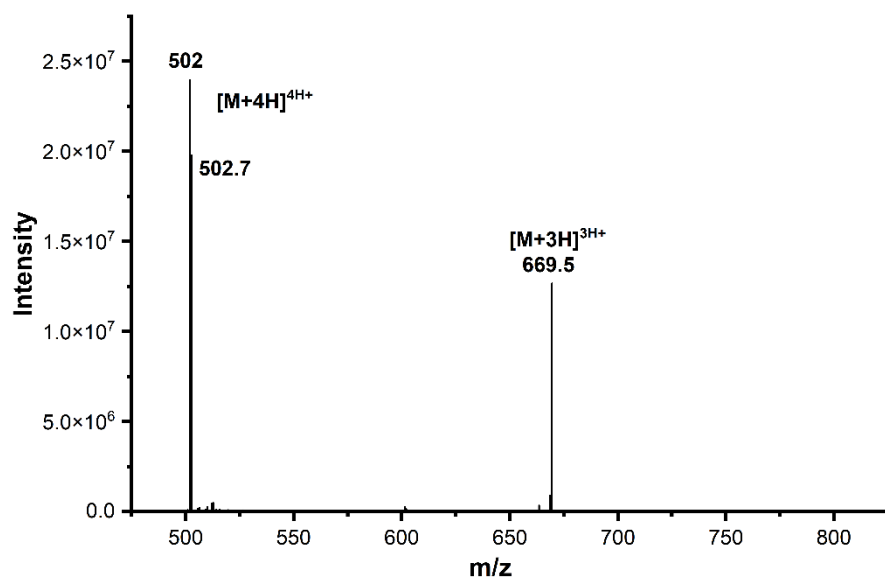


Figure S2. ESI-MS spectrum of RPA



Figure S3. Macroscopic image after co-incubation of erythrocytes and hydrogel leachates.

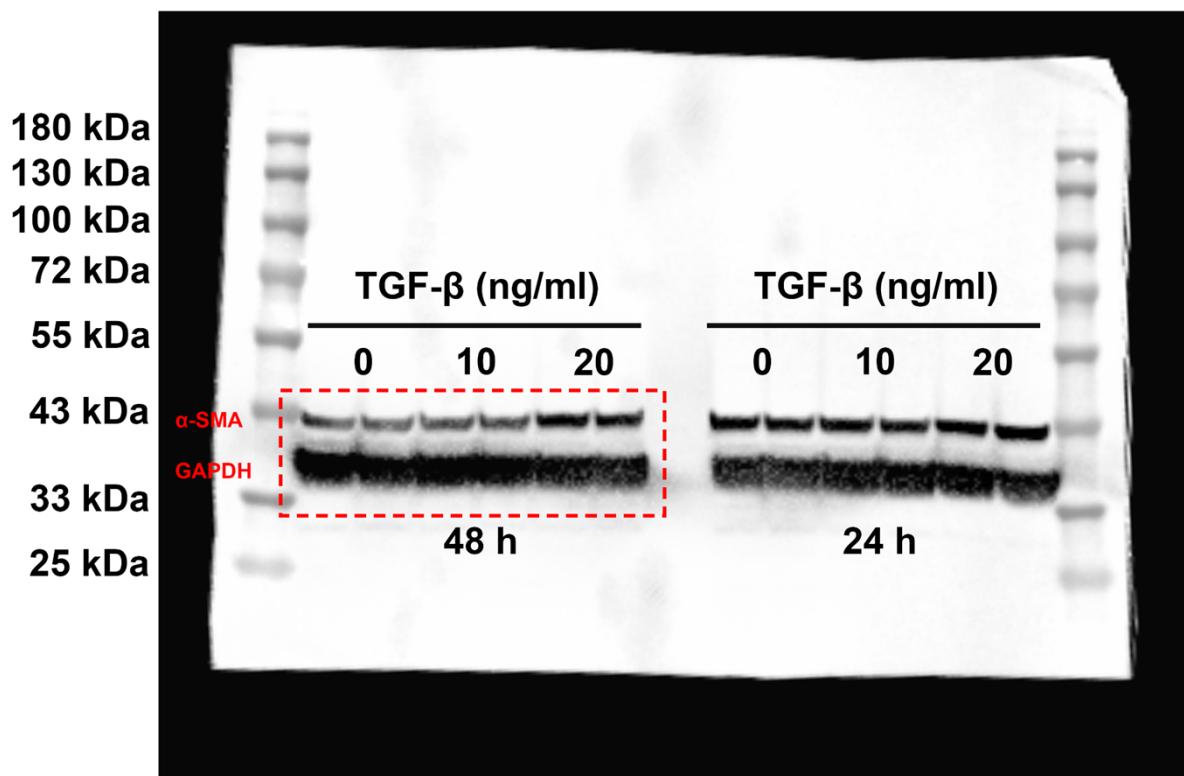


Figure S4. Original Western Blot Bands for α -SMA

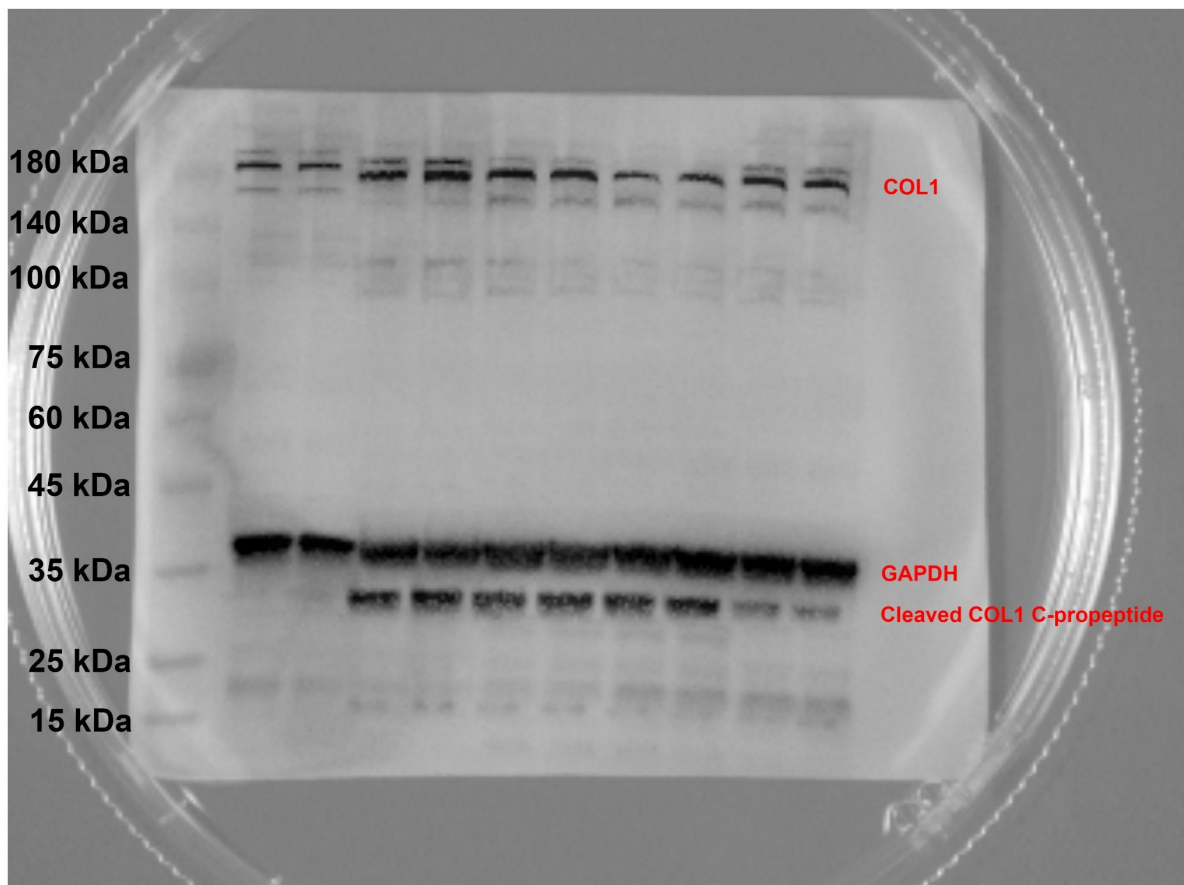


Figure S5. Original Western blot bands for collagen type I (COL-1)

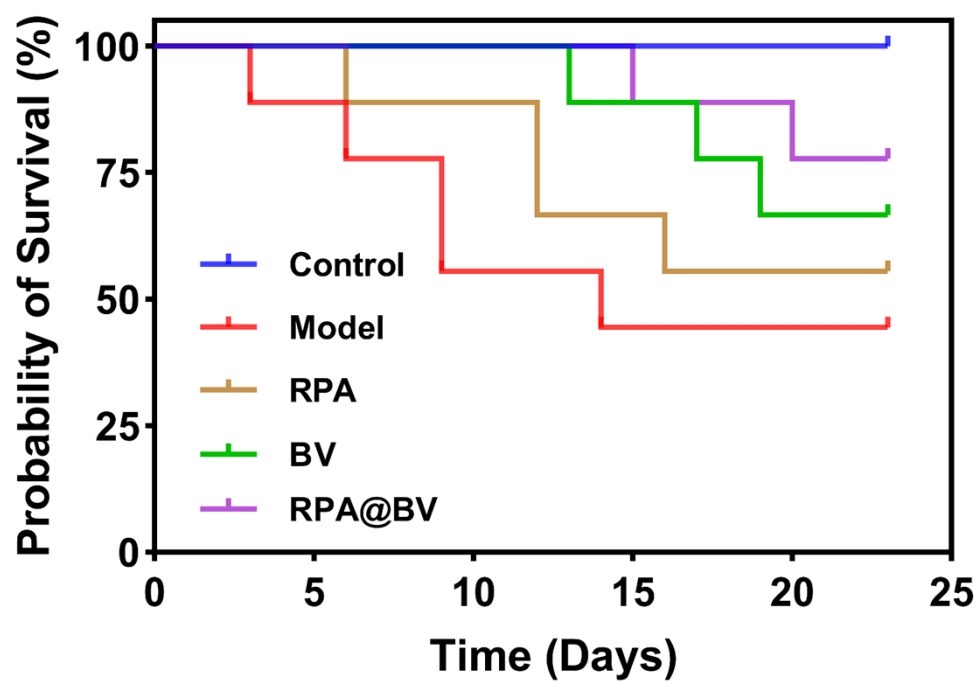


Figure S6. Survival curve of mice during the treatment period (n = 8 biologically independent samples).

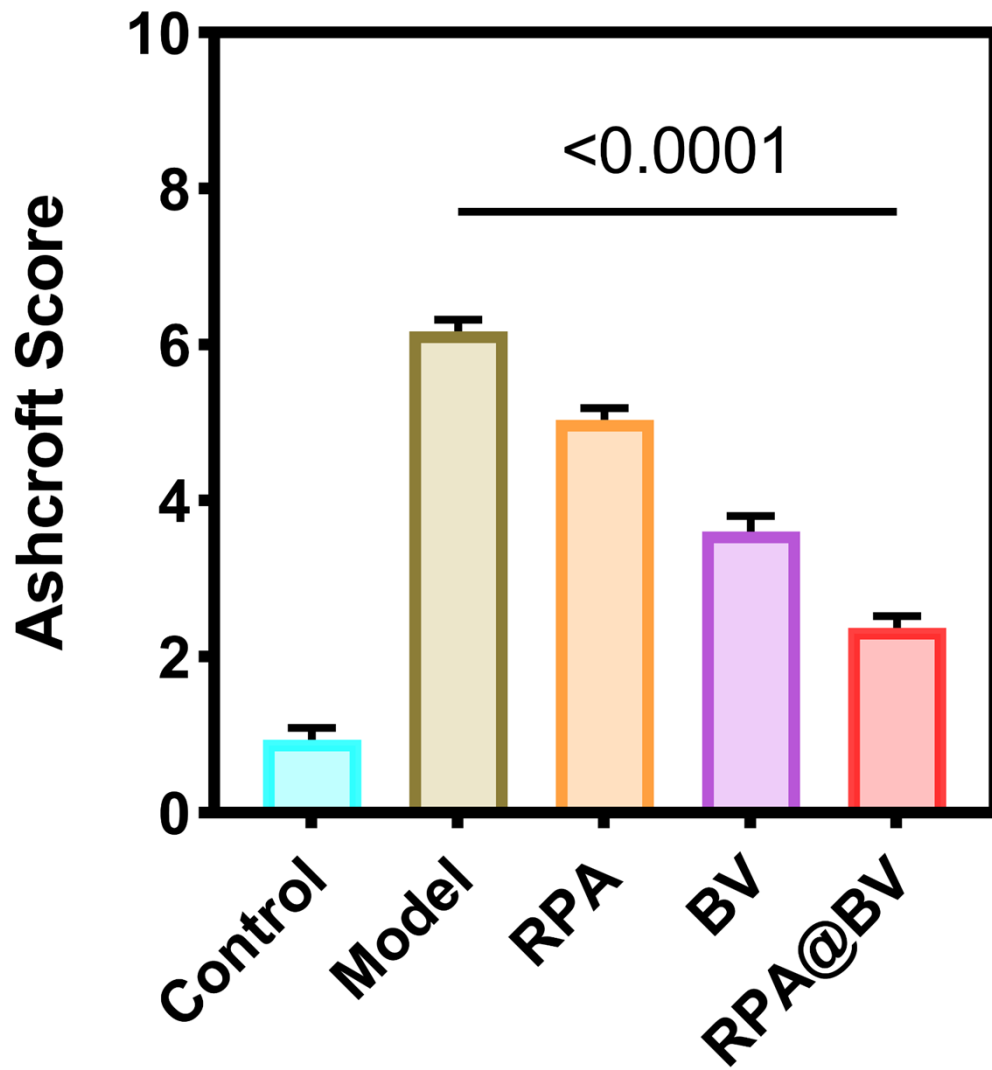


Figure S7. Ashcroft scoring of lung tissue sections after H&E staining. (n = 3 biologically independent samples, mean \pm SD). The statistical significance was evaluated by one-way ANOVA with Tukey's post hoc test.

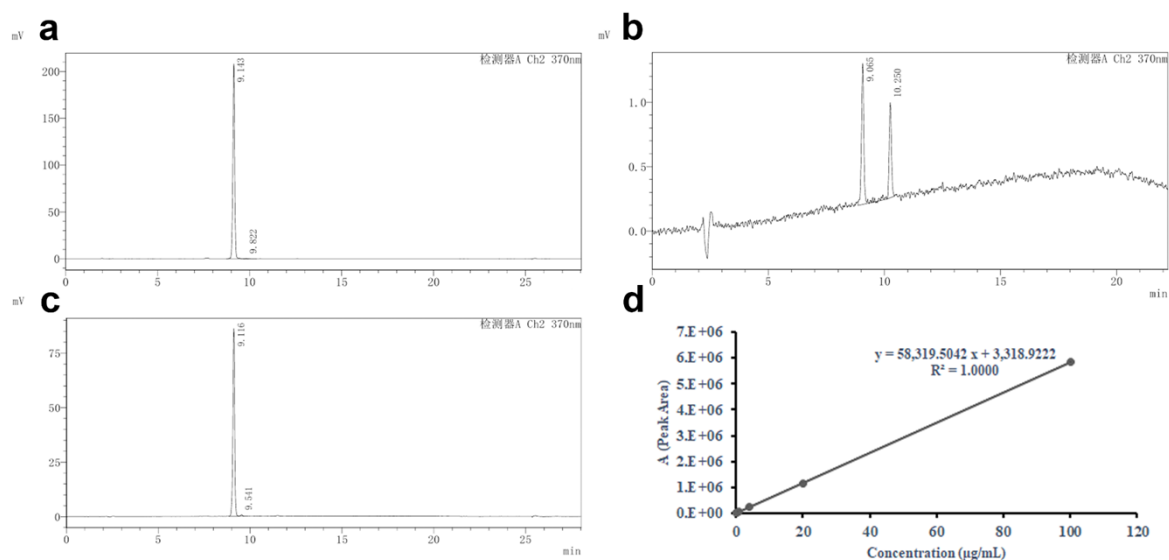


Figure S8. Method specificity of BIBF. **a–c.** Chromatographic profiles of BIBF, VS-6766, and RPA@BV at wavelength of 370 nm; **d.** Standard curve of BIBF.

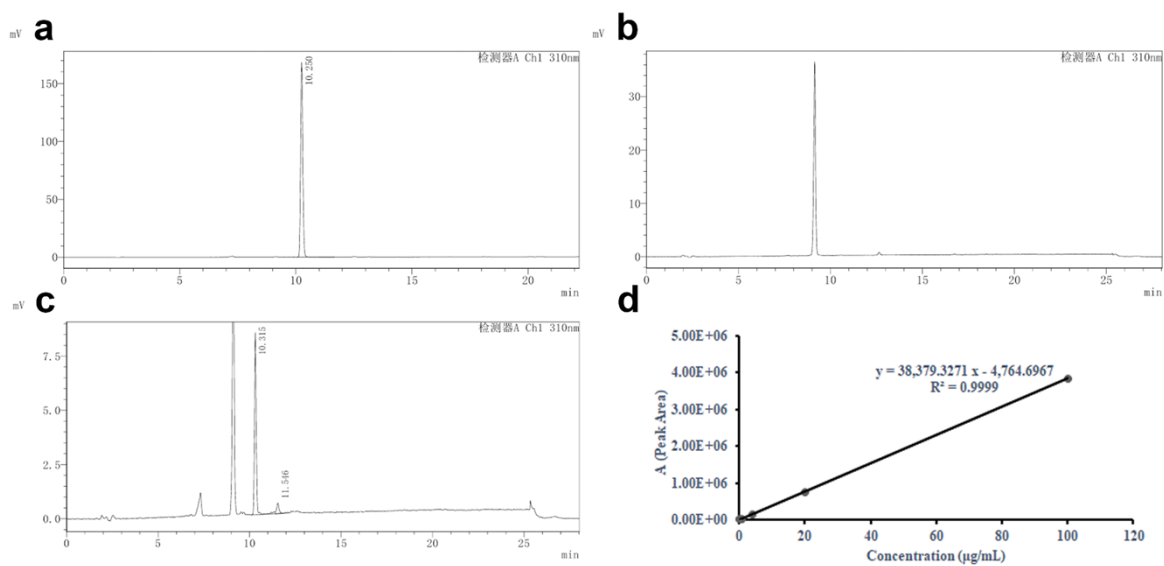


Figure S9. Method specificity of VS-6766. **a–c.** Chromatograms of VS-6766, BIBF, and RPA@BV at wavelength of 310 nm. **d.** Standard curve of VS-6766.

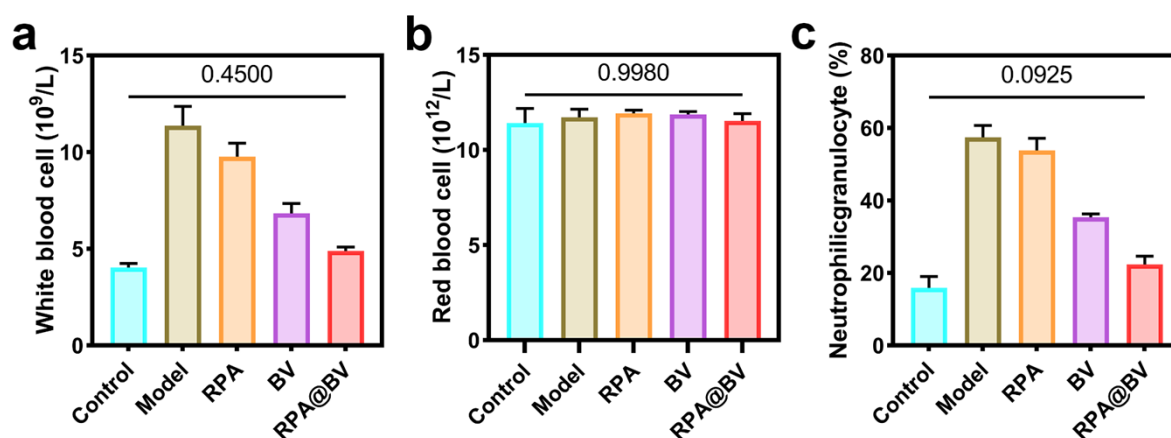


Figure S10. Hematological parameters. **a.** White blood cell (WBC) count. **b.** Red blood cell (RBC) count. **c.** Neutrophil percentage. (n = 3 biologically independent samples, mean \pm SD). The statistical significance was evaluated by one-way ANOVA with Tukey's post hoc test.

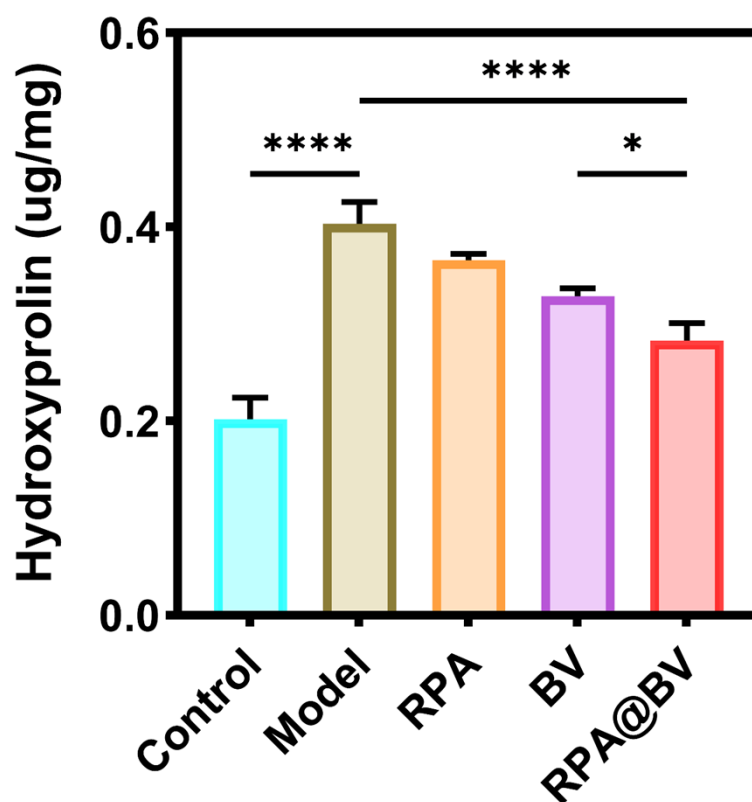


Figure S11. Hydroxyproline content in mice lung tissues. (n = 3 biologically independent samples, mean \pm SD). The statistical significance was evaluated by one-way ANOVA with Tukey's post hoc test.

Table S1. The mass of various required amino acids and the corresponding volume of solvent

Reagent	Volume (mL)	Mass (g)
Alanine	42	2.62
Aspartic acid	21	1.73
Histidine	11	1.37
Proline	11	0.75
Arginine	21	2.73
Threonine	21	1.67
Tryptophan	11	1.16
Tyrosine	11	1.02

Table S2. The drug loading capacity and encapsulation efficiency of different ratio of the total mass of BIBF and VS-6766 to the mass of the amphiphilic RPA peptide

W_d : W_R	EE of BIBF (%)	EE of VS (%)	DL (wt%)
2: 4.67	88.78	22.87	25.1%
2: 3	99.6	23.18	37.88%
1: 1	94.69	15.26	41.35%

Table S3. The drug loading capacity and encapsulation efficiency of different ratios of BIBF to VS-6766

BIBF: VS	EE of BIBF (%)	EE of VS (%)	DL (wt%)
5: 1	89.29	41.9	29.08%
1: 1	99.6	23.18	37.88%
1: 4	90.4	4.32	10.74%

Table S4. The IC₅₀ and CI values of HELF cells after being treated with free drugs at different ratios for 48 hours

Drug/ Combo	CI value	IC₅₀, BIBF	IC₅₀, VS
BIBF		245.275	
VS-6766			3247.33
BIBF/ VS 10: 1	1.339	326.037	32.6037
BIBF/ VS 5: 1	0.985	237.972	47.5944
BIBF/ VS 1: 1	0.622	141.761	141.761
BIBF/ VS 1: 5	0.564	100.473	502.365
BIBF/ VS 1: 10	0.584	81.5654	815.654