Supporting Information

Nanoengineered Immunosuppressive Therapeutics Modulating M1/M2 Macrophages into Balanced Status for Enhanced Idiopathic Pulmonary Fibrosis Therapy

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Supplementary Figures

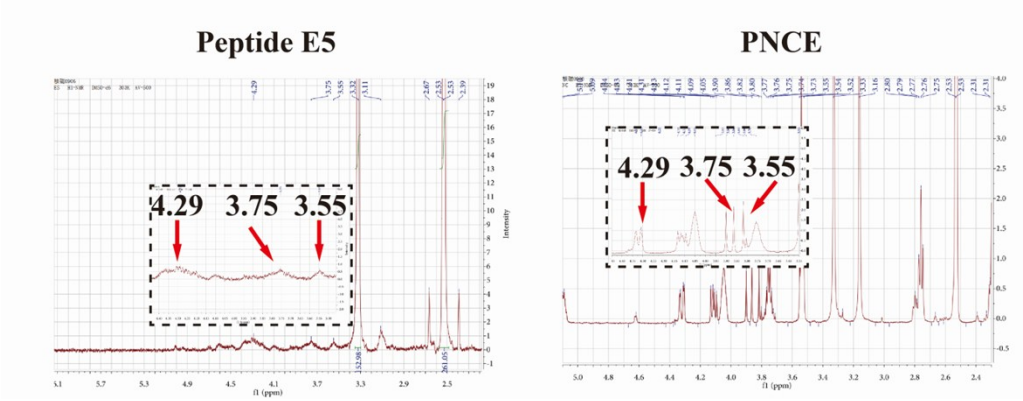

Fig. S1. The characterization of peptide E5 modified PNCE by ^{1}H NMR spectroscopy.

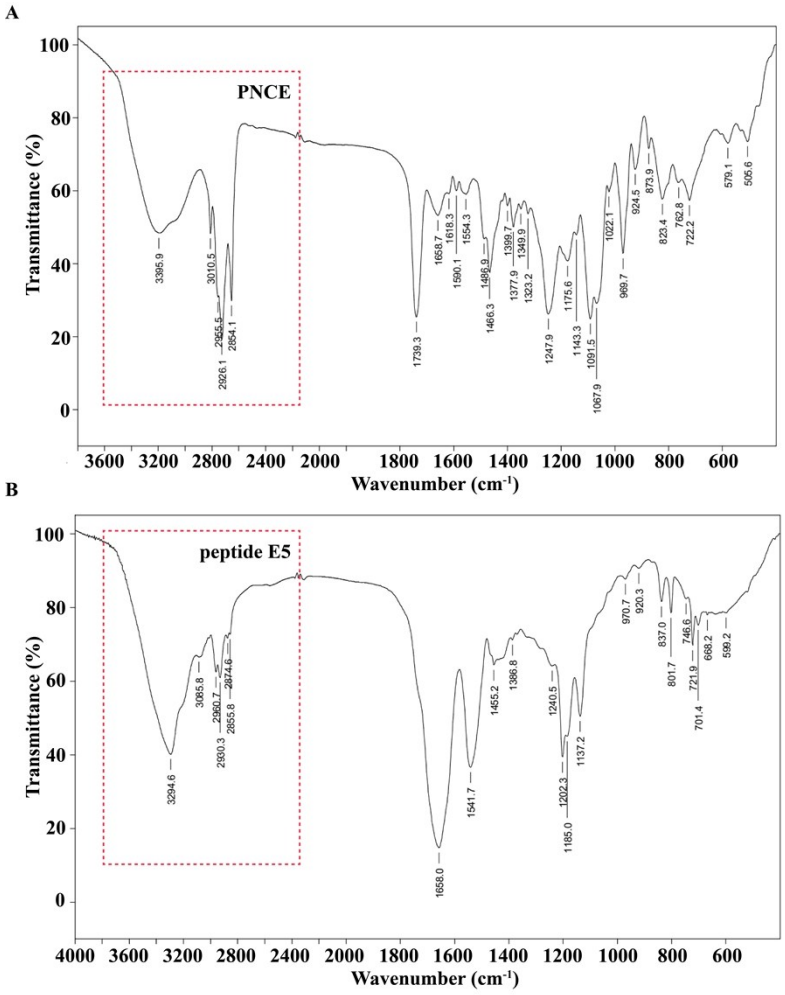

Fig. S2. The characterization of peptide E5 (A) modified PNCE (B) by Infrared spectroscopy.

Table S1. Particle-size distributions of different formulations.

	Diameter (nm)	PDI
PC	**91.45 ± 5.69**	**0.215**
PN	**91.11 ± 6.14**	**0.211**
PNC	**106.16 ± 7.49**	**0.203**

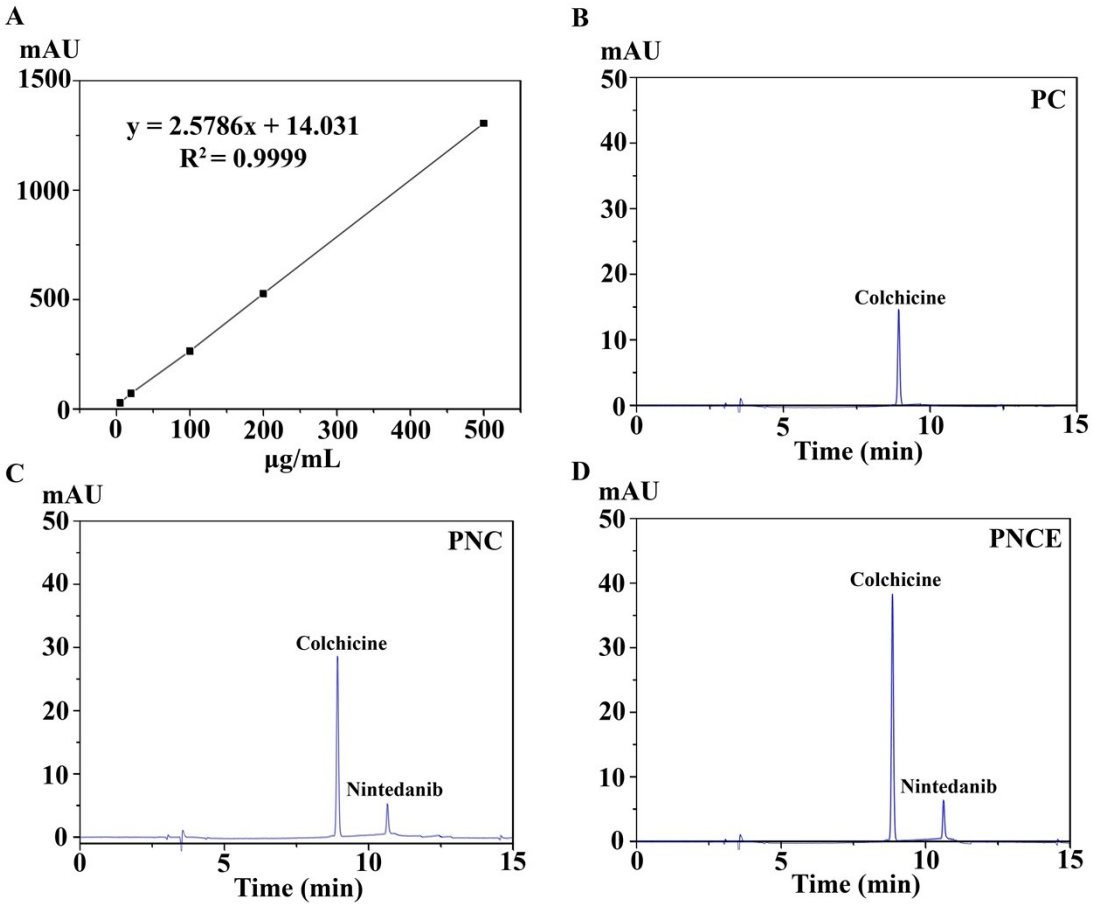

Fig. S3. HPLC Characterization. (A) The standard curve of colchicine (COL). High-Performance Liquid Chromatography (HPLC) chromatogram of COL in PC (B), PNC (C) and PNCE (D) at 350 nm.

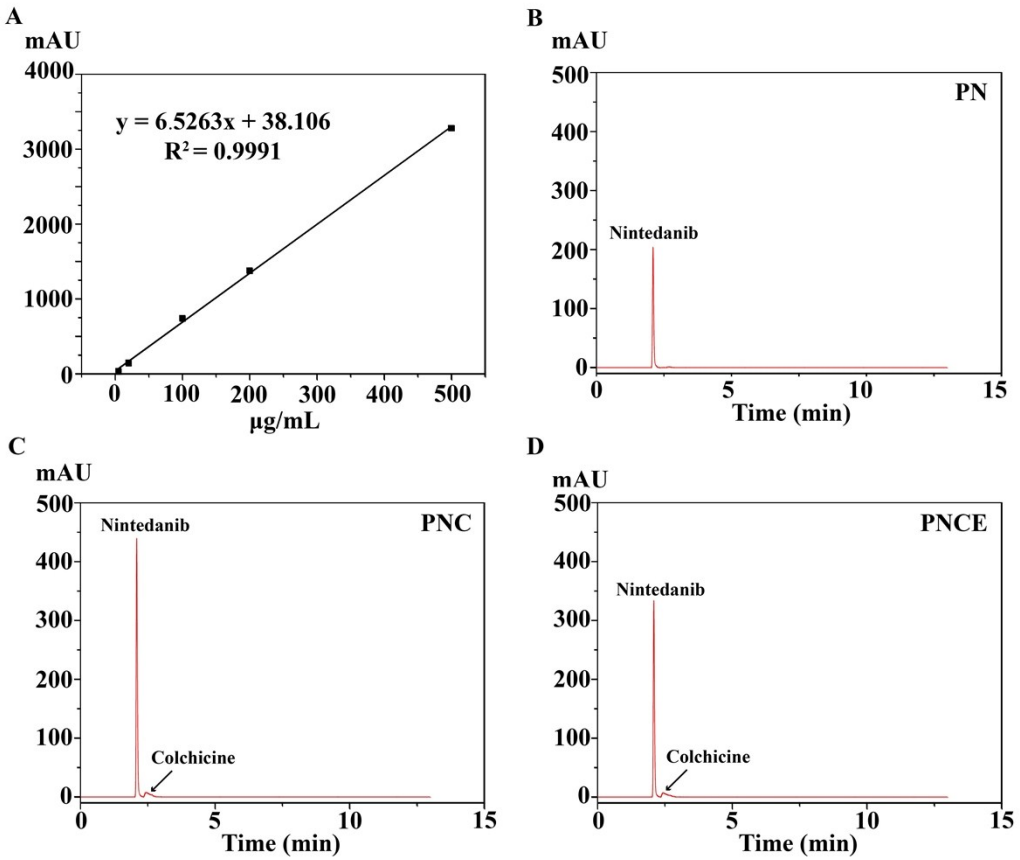

Fig. S4. HPLC Characterization. (A) The standard curve of nintedanib (NIN). High-Performance Liquid Chromatography (HPLC) chromatogram of NIN in PN (B), PNC (C) and PNCE (D) at 391 nm.

Table S2. The encapsulation efficiency (EE %) and loading efficiency (LE %) of different formulations.

		EE %	LE %
Nintedanib	PN	101.92 ± 0.17	1.27 ± 0.05
	PNC	110.56 ± 0.37	1.39 ± 0.08
	PNCE	105.84 ± 8.37	1.34 ± 0.02
Colchicine	PC	62.69 ± 6.83	3.13 ± 0.09
	PNC	48.84 ± 3.79	2.44 ± 0.05
	PNCE	68.91 ± 7.61	3.45 ± 0.07

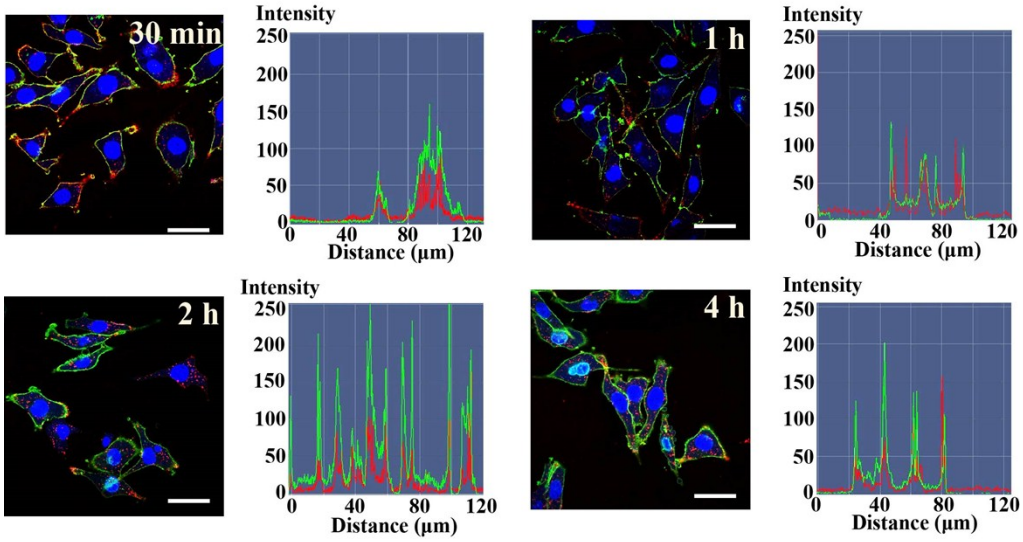

Fig. S5. The adhesion between monocyte-derived multipotent cells (MOMCs) and PNCE at different times by CLSM.

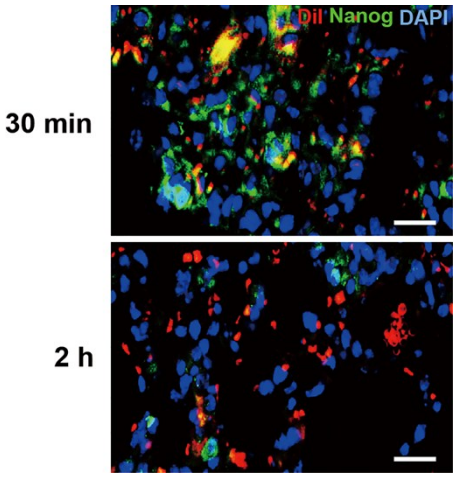

Fig. S6. The fluorescence intensity of Nanog-bind PNCE-DiI on MOMCs with different times. Scale bar: 20 μm.

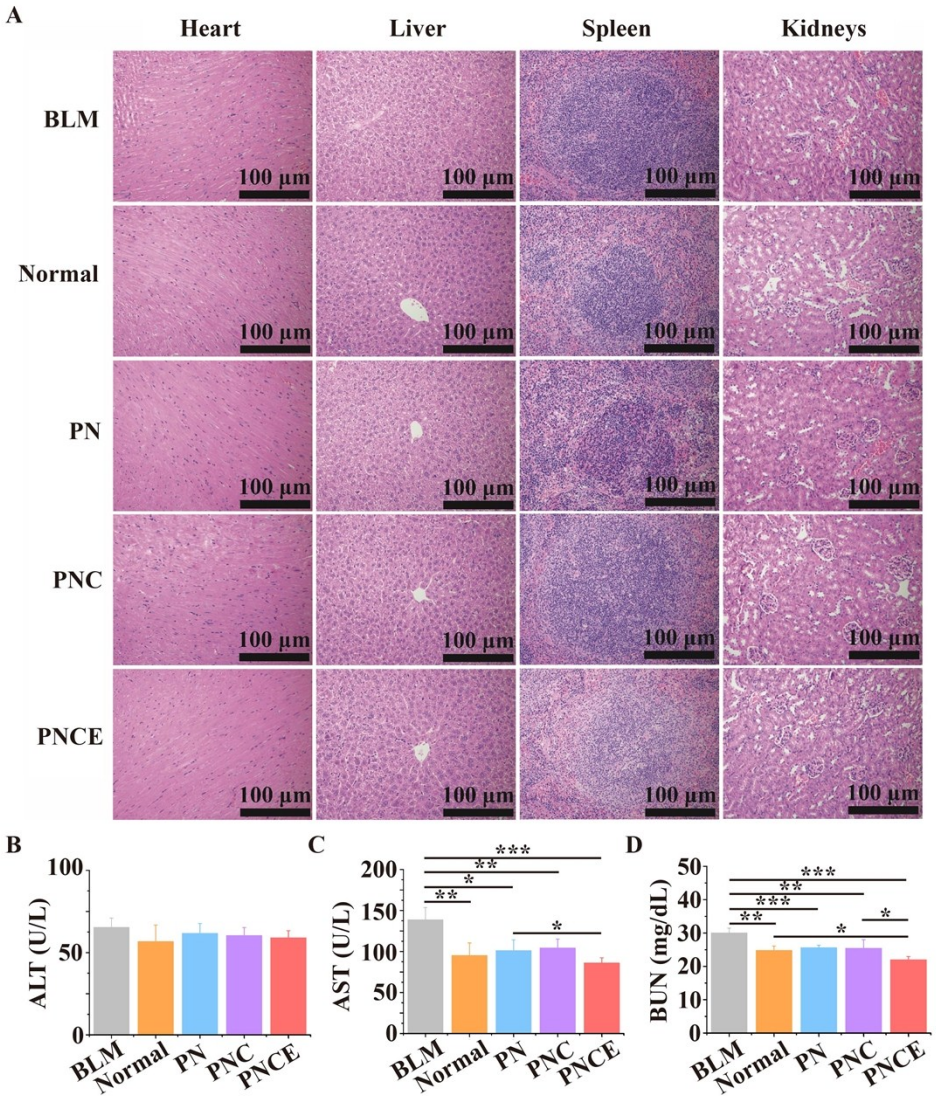

Fig. S7. Safety application of different formulations *in vivo*. A) H&E staining of other organs after different treatments. Scale bar: 100 μm. Contents of ALT (B) and AST (C) in serum are to evaluate liver injury. (D) Contents of BUN in serum are to evaluate kidneys injury (n = 5). Statistical significance was calculated via one-way analysis of variance (ANOVA). *P<0.05, **P<0.01, ***P<0.001.