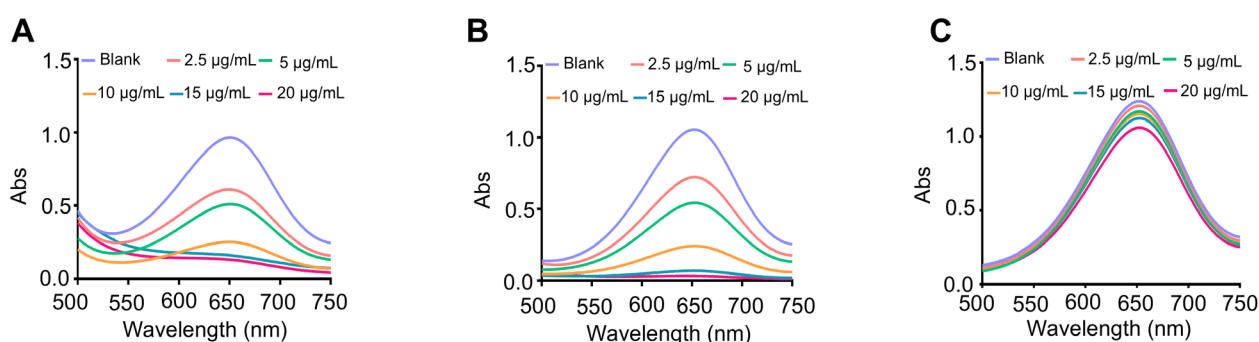
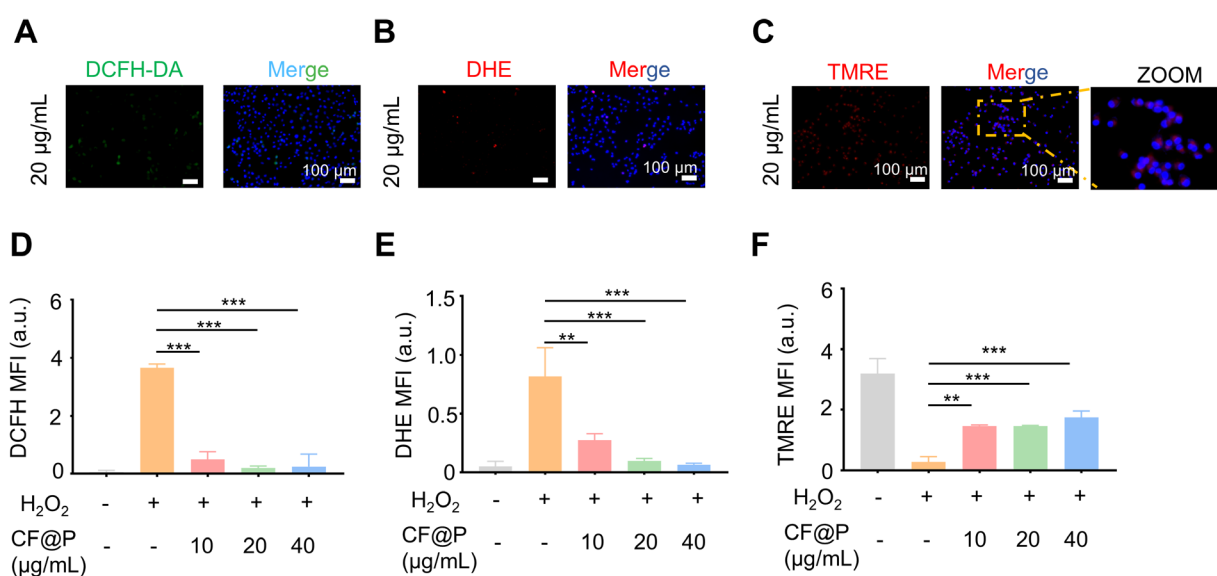


# An enzyme-mimicking reactive oxygen species scavenger targeting oxidative stress-inflammation cycle ameliorates IR-AKI by inhibiting pyruvate dehydrogenase kinase 4

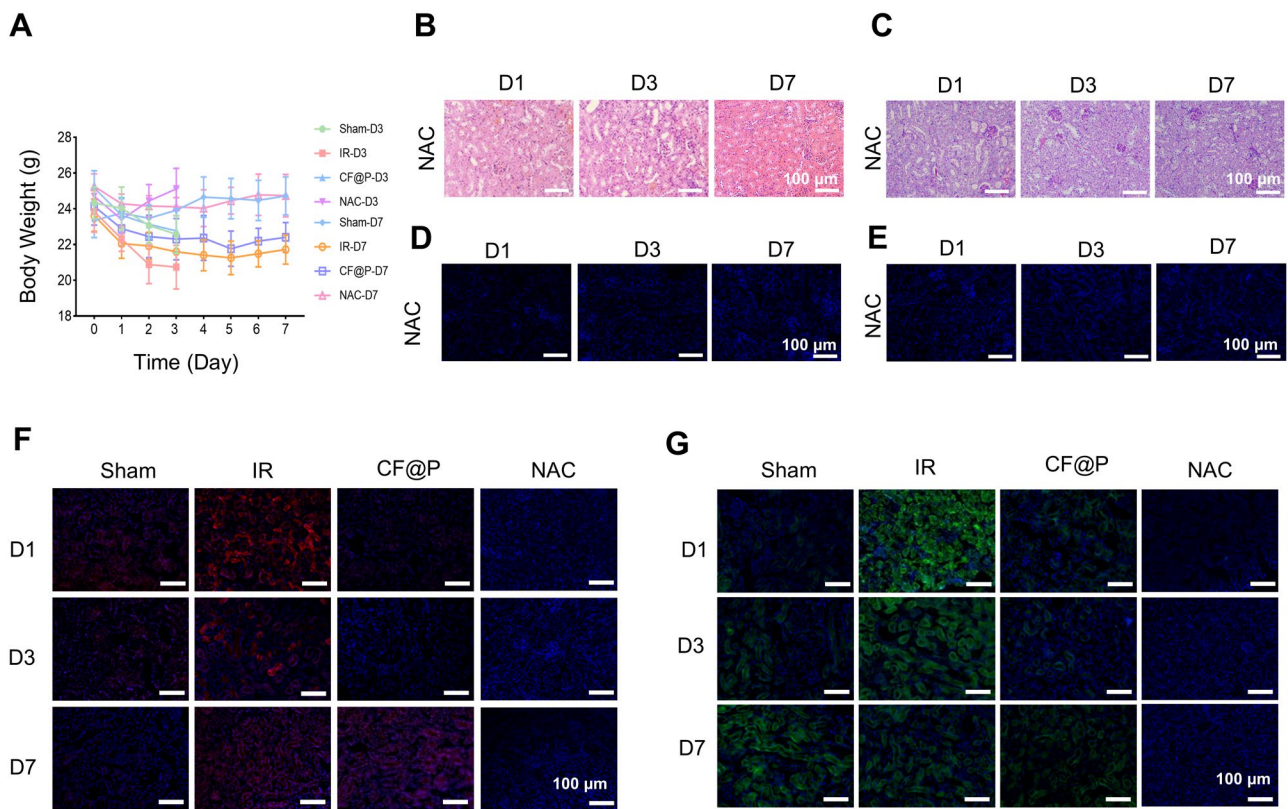
## Supplementary Figures



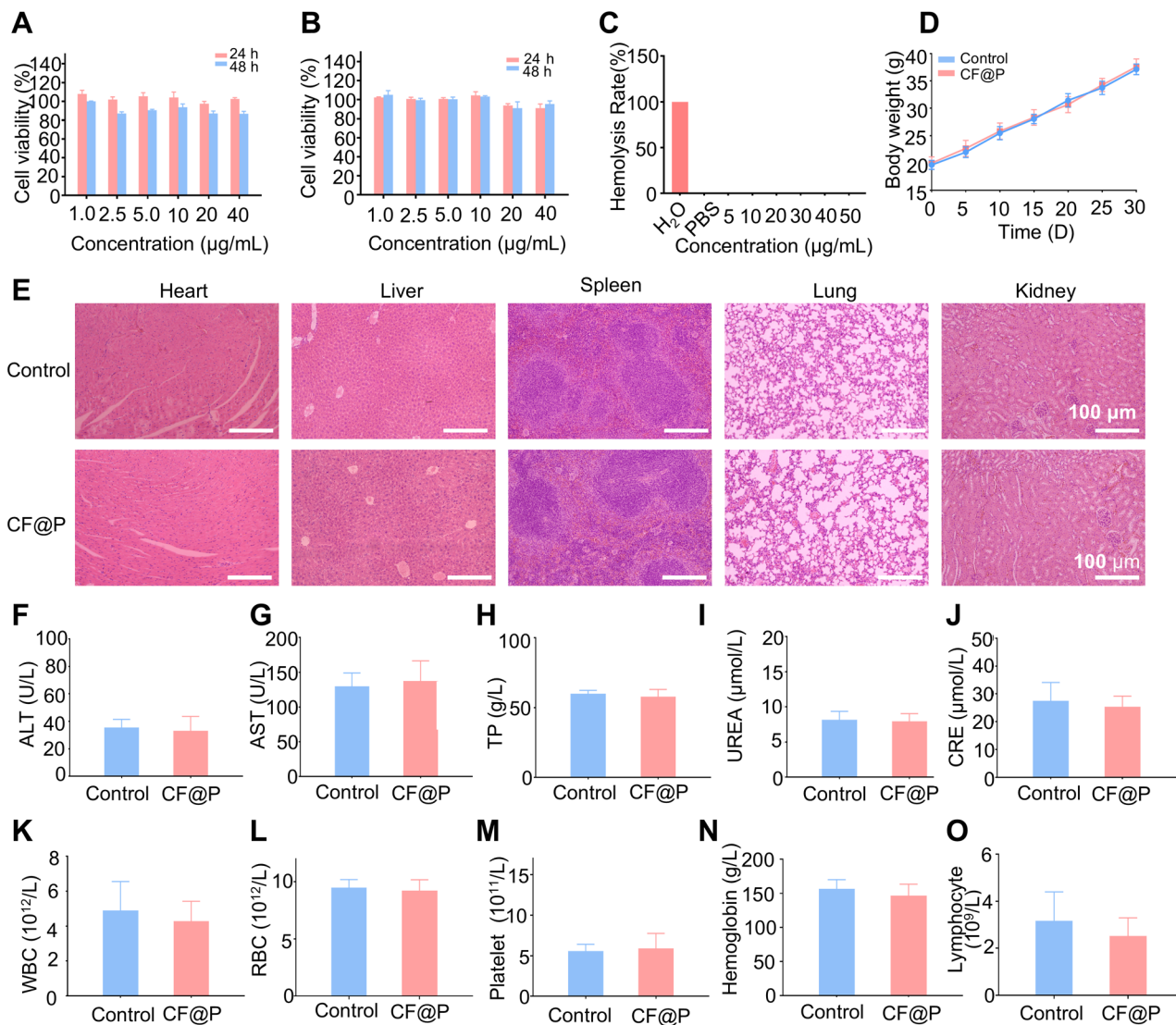
**Figure S1. Supplementary characterization for antioxidant capacity of CF@P.** (A-C) Detection of ox-TMB scavenging ability of CF, CF@P and PDA by Ultraviolet Spectrometer.



**Figure S2. Supplementary materials for antioxidant detection of CF@P in HK-2 cells.** (A-B) Typical DCFH-DA and DHE fluorescence images of 20 µg/mL CF@P-treated HK-2 cells (scale bar, 50 µm). (C) Typical TMRE fluorescence images of 20 µg/mL CF@P-treated HK-2 cells (scale bar, 20 µm). (D) Fluorescence quantitative analysis of DCFH in groups. (E) Fluorescence quantitative analysis of DHE in groups. (F) Fluorescence quantitative analysis of TMRE in groups.



**Figure S3. Supplementary materials for antioxidant detection of CF@P in IR-AKI mice.** (A) Body weight changes of mice in groups. Typical H&E (B), PAS (C), immunofluorescence images of IL-6 (D), TUNEL (E) in kidney tissue of different NAC groups. Typical images of DHE (F), DCFH-DA (G) in kidney tissue of different groups (scale bar, 100  $\mu$ m).



**Figure S4. Biocompatibility evaluation of CF@P.** (A-B) Relative viabilities of RAW 264.7 and HK-2 cells after incubation with different concentrations of CF@P (1, 2.5, 5, 10, 20, 40  $\mu\text{g/mL}$ ) for 24 h and 48 h. (C) Hemolysis Rate test of RCB after incubation with PBS, H<sub>2</sub>O, and concentrations of CF@P (5, 10, 20, 30, 40, 50  $\mu\text{g/mL}$ ). (D) Body weight changes of mice within 30 days after injection of CF@P. (E) H&E staining for vital organs was used to assess the systemic toxicity of CF@P (scale bar, 100  $\mu\text{m}$ ). (F-O) Complete blood panel analysis results and blood biochemistry analysis results for treated mice. Data are presented as means  $\pm$  SD (n = 6).

## Supplementary Tables

**Table S1. Relevant primer sequence for PCR**

	F(5' to 3')	R(5' to 3')
$\beta$ -actin-F(Human)	CCTGGCACCCAGCACAAT	GCCGATCCACACGGAGTACT
Kim-1(Human)	CTTCACCTCAGCCAGCAGAAA C	GCCATCTGAAGACTCTGTCACG
IL-6(Human)	GTACATCCTCGACGGCATCTC	GTGCCTCTTTGCTGCTTTCAC
$\beta$ -actin(Mouse)	GAGACCTTCAACACCCCAGC	ATGTCACGCACGATTTCCC
KIM-1(Mouse)	AAACCAGAGATTCCCACACG	GTCGTGGGTCTTCCTGTAGC
NGAL(Mouse)	AGGCAGCTTTACGATGTACAGC	GAACTGGTTGTAGTCCGTGGTG
IL-6(Mouse)	ACAAGTCGGAGGCTTAATTAC ACAT	TTGCCATTGCACAACCTCTTTTC
IL-10(Mouse)	GGTTGCCAAGCCTTATCGGA	CTTCTCACCCAGGGAATTCA
PDK4(Mouse)	CCATGAGAAGAGCCCAGAAGA	GAACTTTGACCAGCGTGTCTACA A