Supplementary materials

Polymeric Nanoformulations Aimed at Cancer Metabolism Reprogramming with High Specificity to Inhibit Tumor Growth

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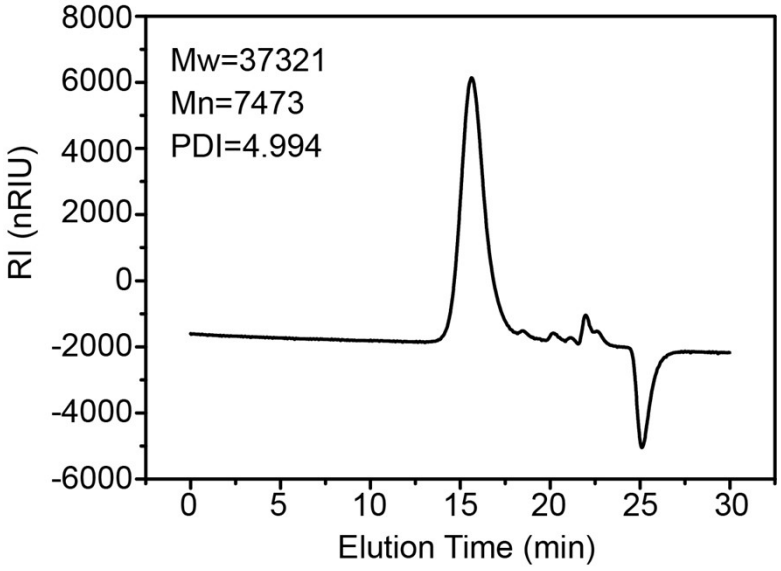

Fig. S1 Gel Permeation Chromatography (GPC) of PLGA.

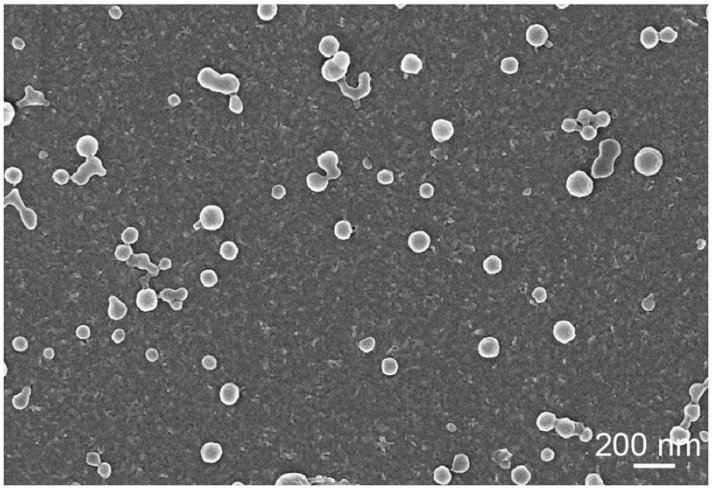

Fig. S2 SEM image of GBP.

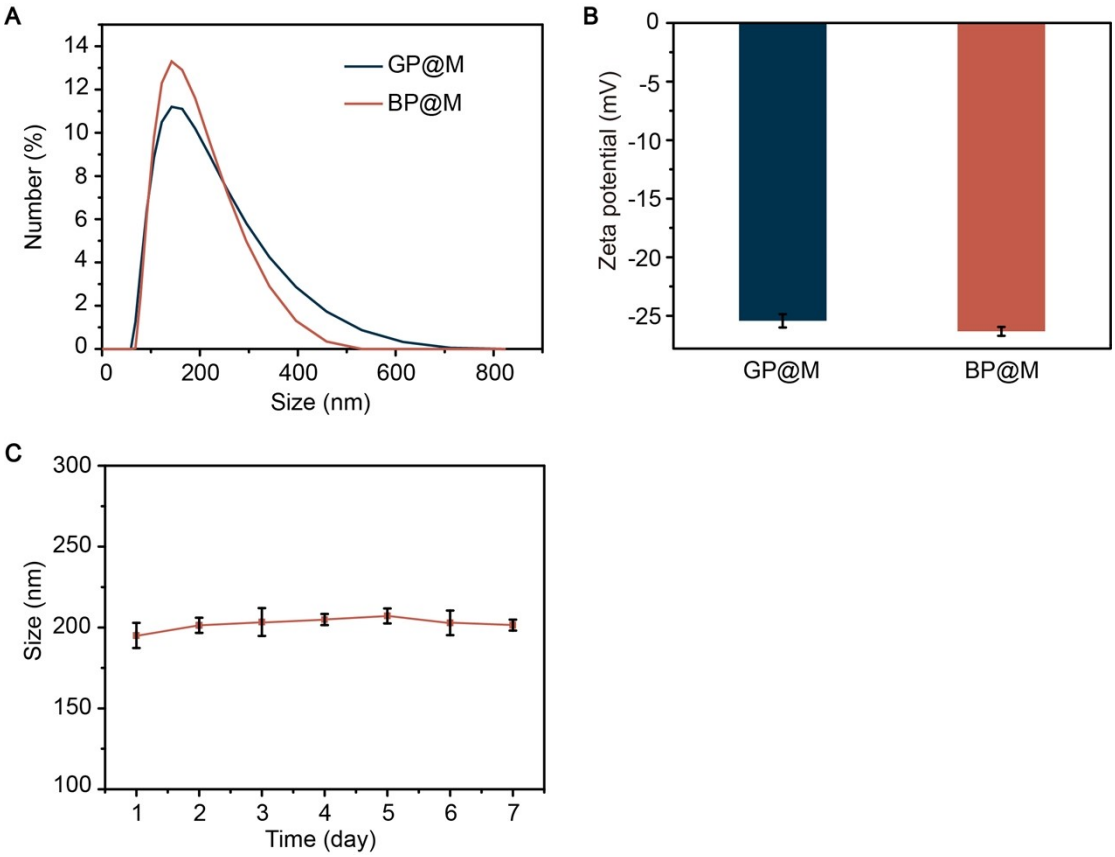

Fig. S3 (A) Hydrodynamic diameter of GP@M and BP@M. (B) Zeta potential of GP@M and BP@M. (C) 7-day serum stability of GBP@M.

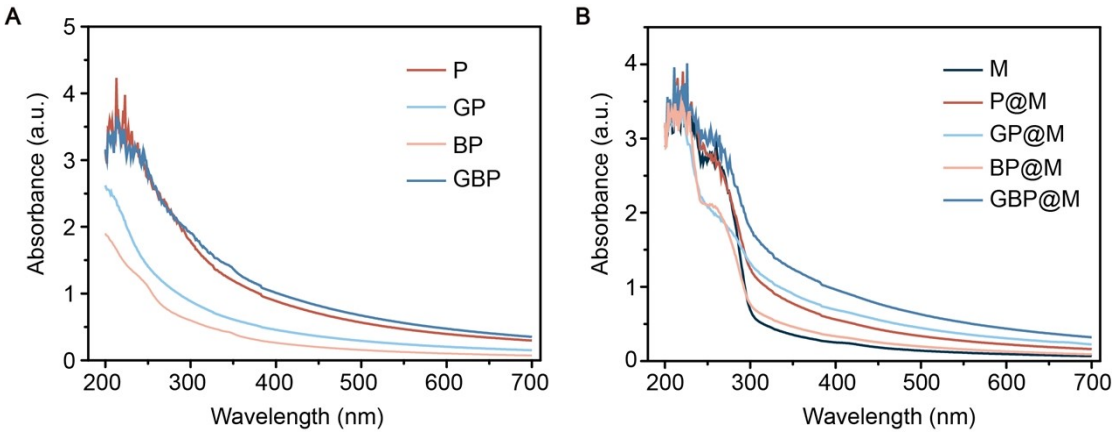

Fig. S4 (A) UV absorption of P, GP, BP, GBP. (B) UV absorption of M, P@M, GP@M, BP@M, GBP@M.

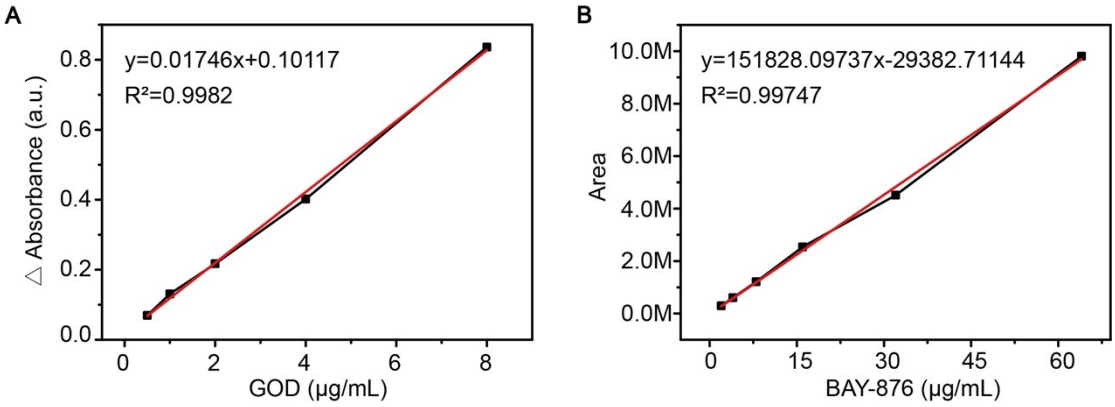

Fig. S5 Standard curves of (A) GOD and (B) BAY-876 determined by GOD activity testing kit and HPLC, respectively.

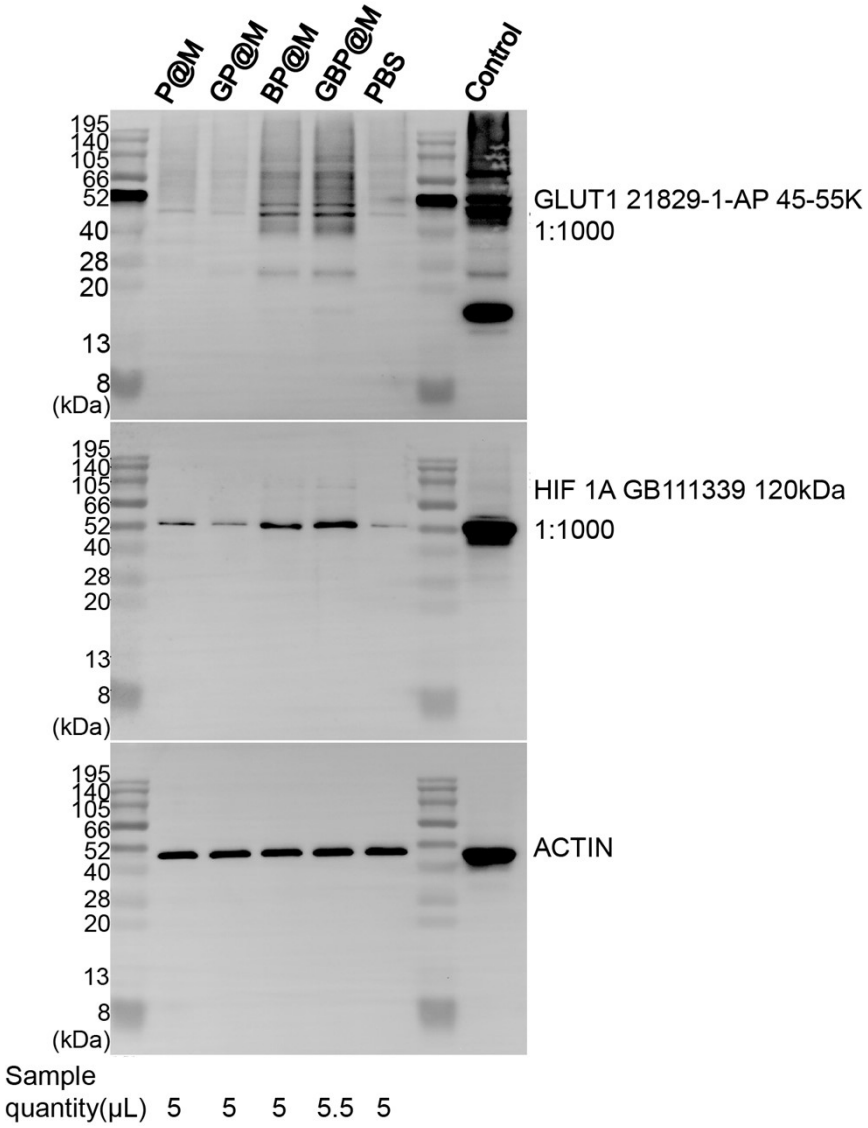

Fig. S6 Raw data of Western blotting analyses for GLUT1 and HIF-1α in 4T1 cells after various treatments.

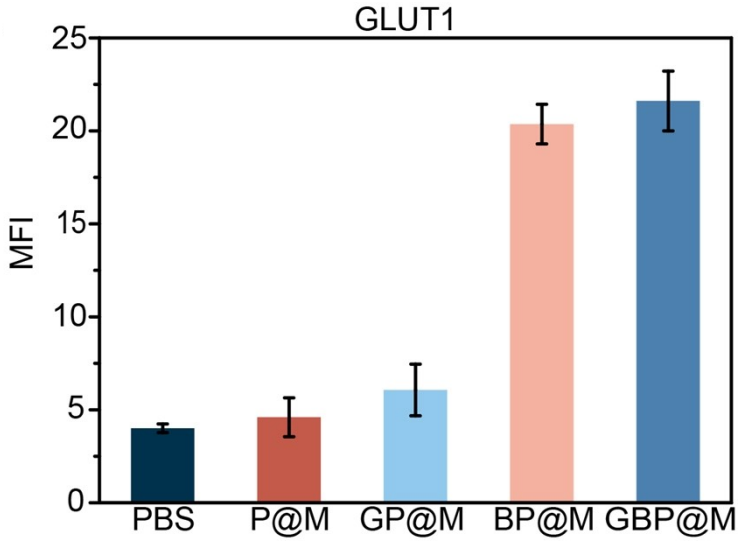

Fig. S7 Mean fluorescence intensity of immunofluorescence staining of GLUT1 on 4T1 cells membranes after different treatments (50 μg/mL) for 24 hours. The data were obtained according to Fig. 1K.

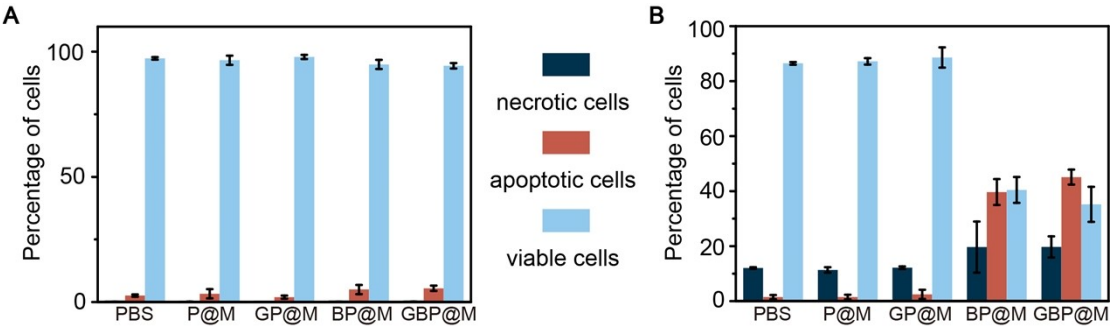

Fig. S8 Quantitative analysis of apoptosis and necrosis of 3T3 (A) and 4T1 (B) cells after 24 hours treatments with different samples (80 μg/mL). The data were obtained according to Fig. 2D.

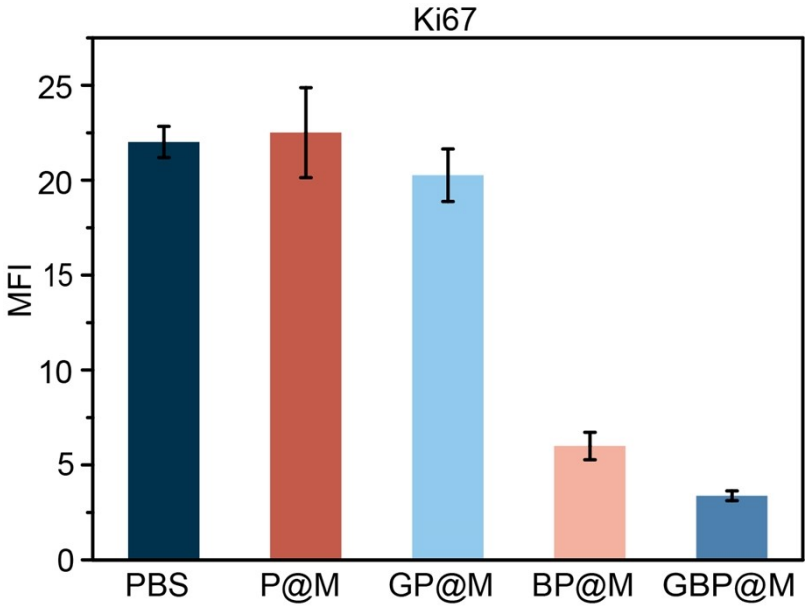

Fig. S9 Mean fluorescence intensity of immunofluorescence staining of Ki67 on 4T1 cells membranes after different treatments (50 μg/mL) for 24 hours. The data were obtained according to Fig. 2E.

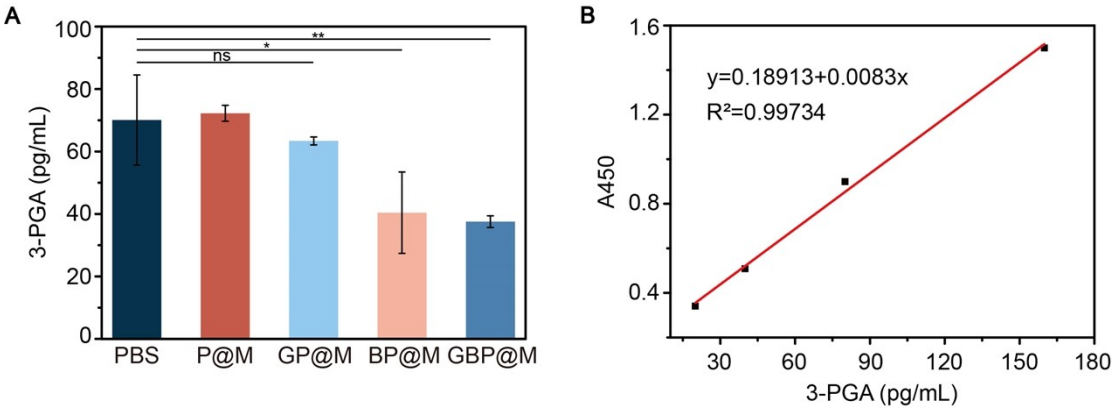

Fig. S10 (A) Contents of 3-PGA in 4T1 cells after different treatments (n=3). (B)Standard curve of absorbance of 3-PGA. Significant differences were determined using one-way ANOVA. *P <0.05; **P <0.01; ns indicates no significance. Data are presented as means ± standard deviation.

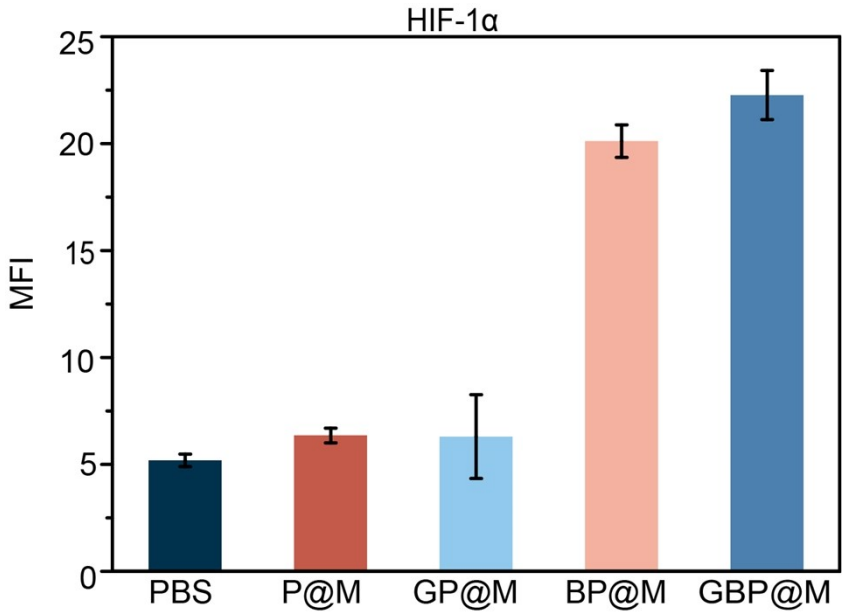

Fig. S11 Mean fluorescence intensity of immunofluorescence staining of HIF-1α on 4T1 cells after different treatments (50 μg/mL) for 24 hours. The data were obtained according to Fig. 2F.

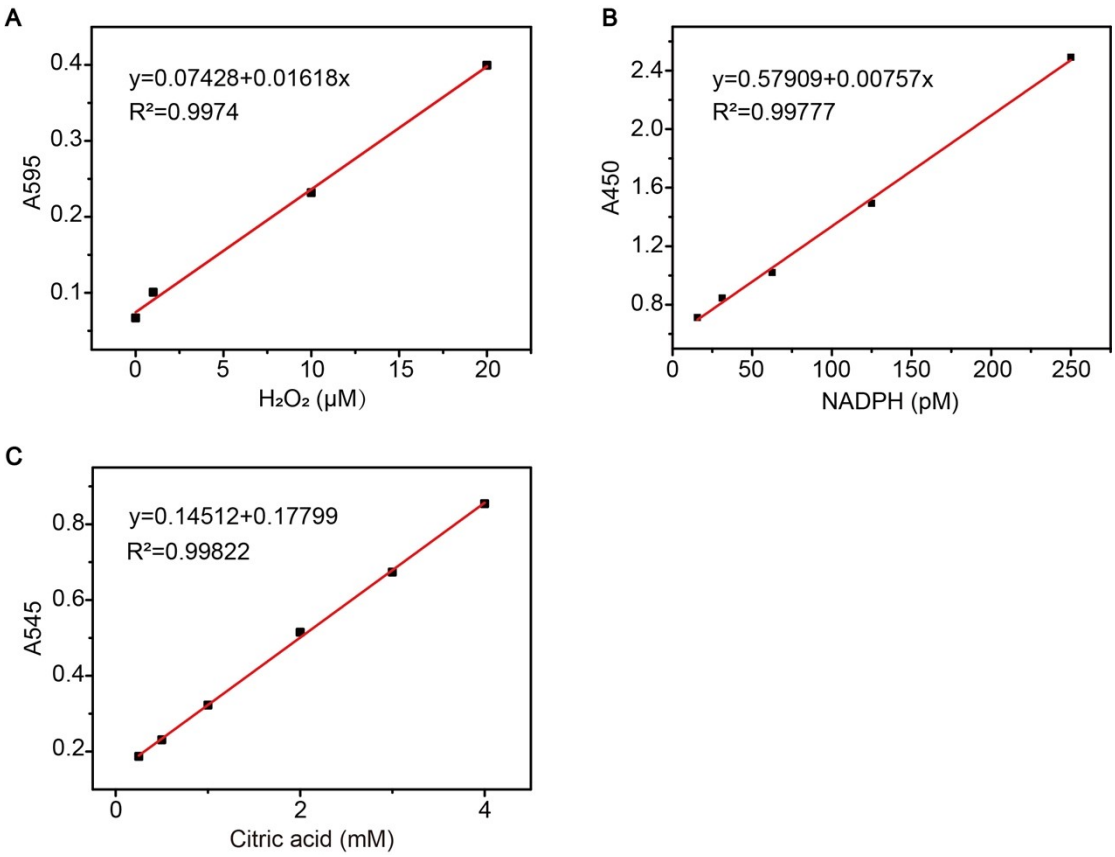

Fig. S12 Standard curves of absorbance of (A) H_2O_2, (B) NADPH, (C) citric acid.

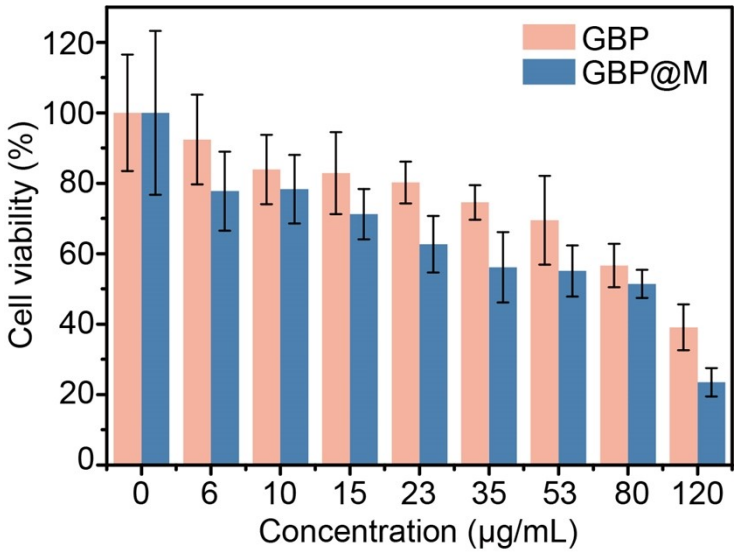

Fig. S13 Cytotoxicity data of GBP and GBP@M in 4T1 cells.

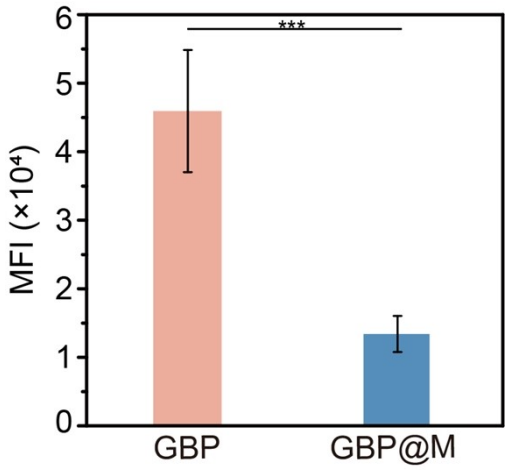

Fig. S14 Mean fluorescence intensity of DIR-labeled GBP and GBP@M in RAW 264.7 macrophages (n=3). Significant differences were determined using Independent Samples t-test. ***P <0.001. Data are presented as means ± standard deviation.

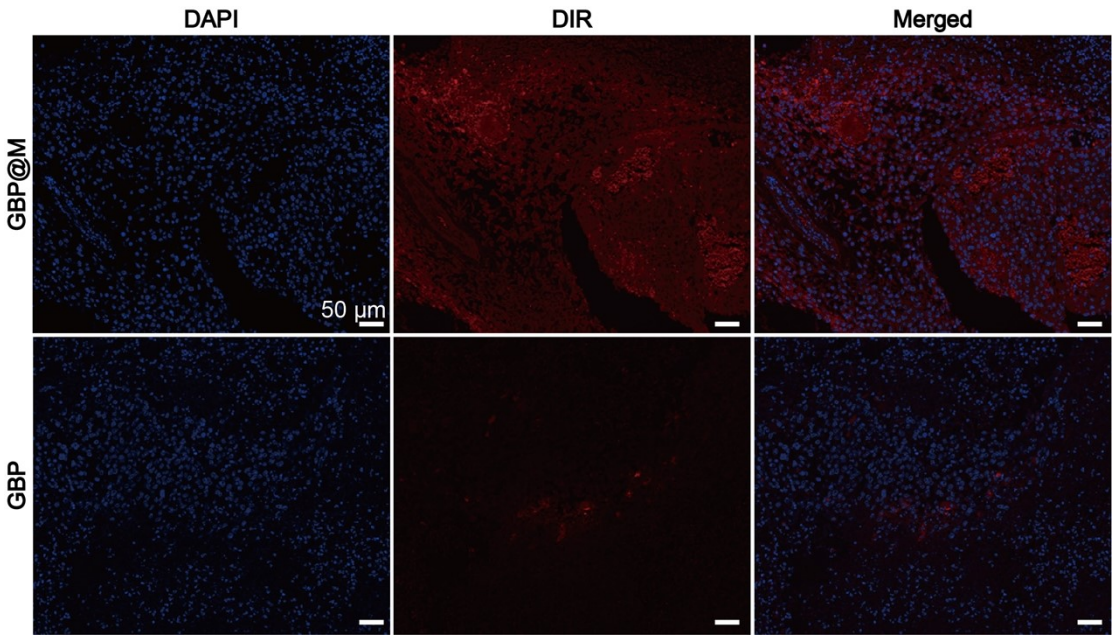

Fig. S15 Fluorescence images of tumor slices obtained from 4T1 tumor-bearing mice after intravenous injection of DIR-labeled GBP and GBP@M (10 mg/kg).

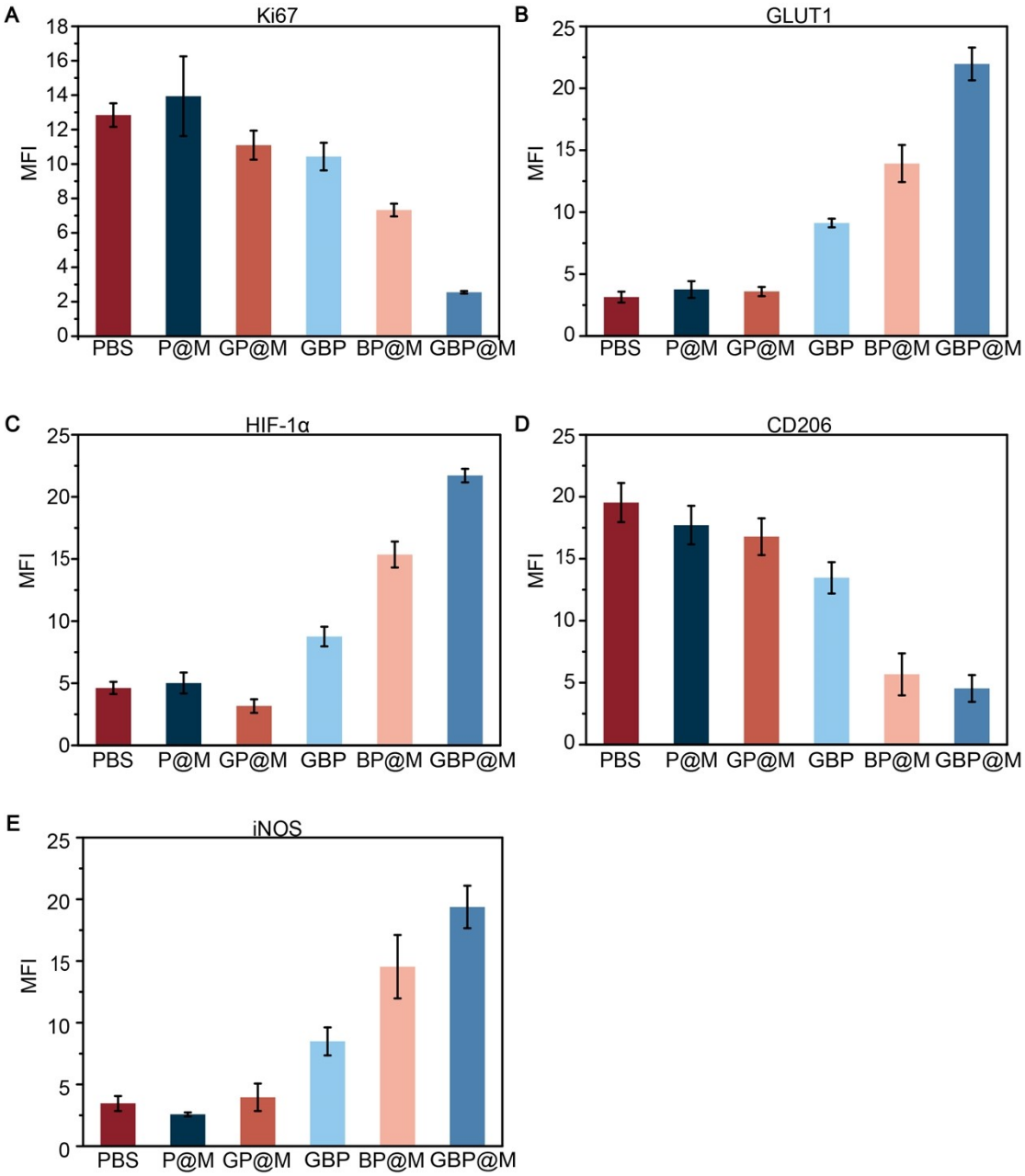

Fig. S16 Mean fluorescence intensity of immunofluorescence staining of Ki67 (A), GLUT1 (B), HIF-1α (C), CD206 (D) and iNOS (E) toward tumor histologic sections after different treatments. The data were obtained according to Fig. 4D-K.

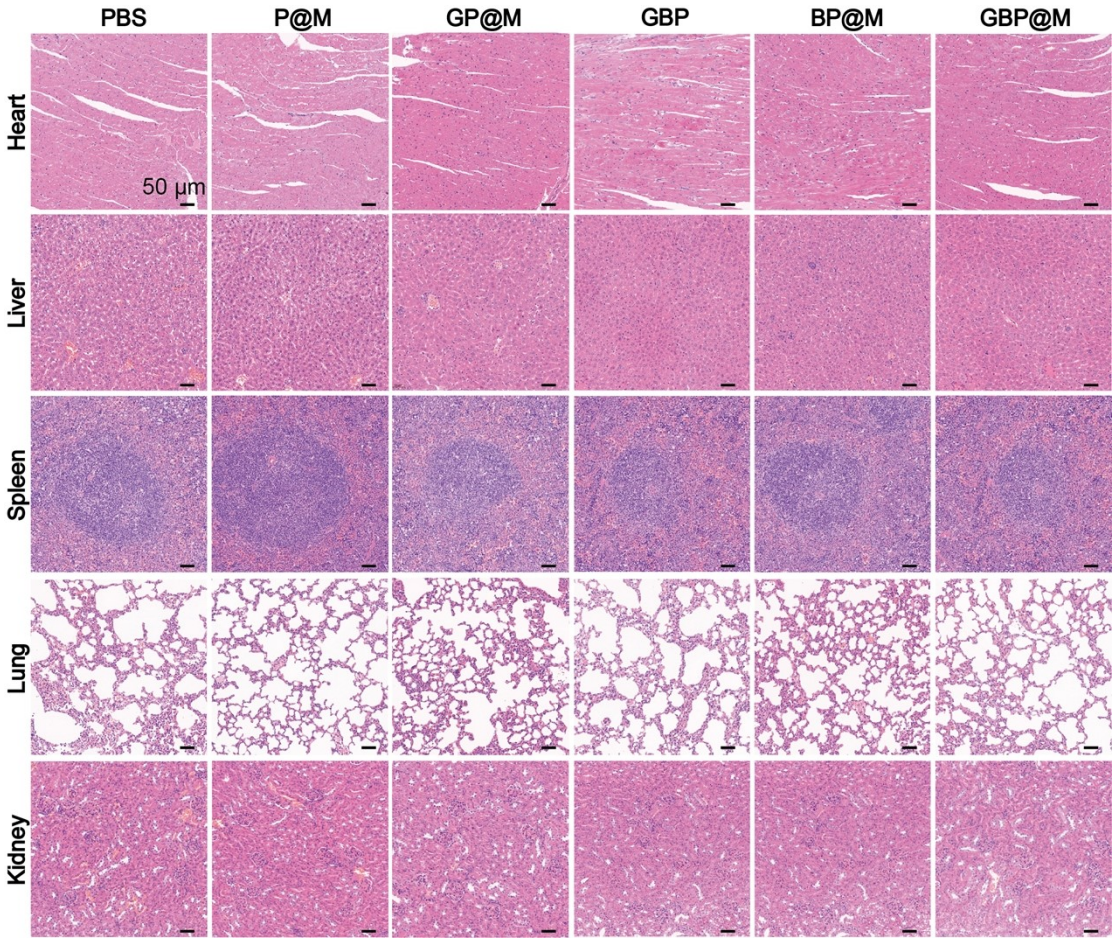

Fig. S17 H&E staining of major organs slices after different treatments.

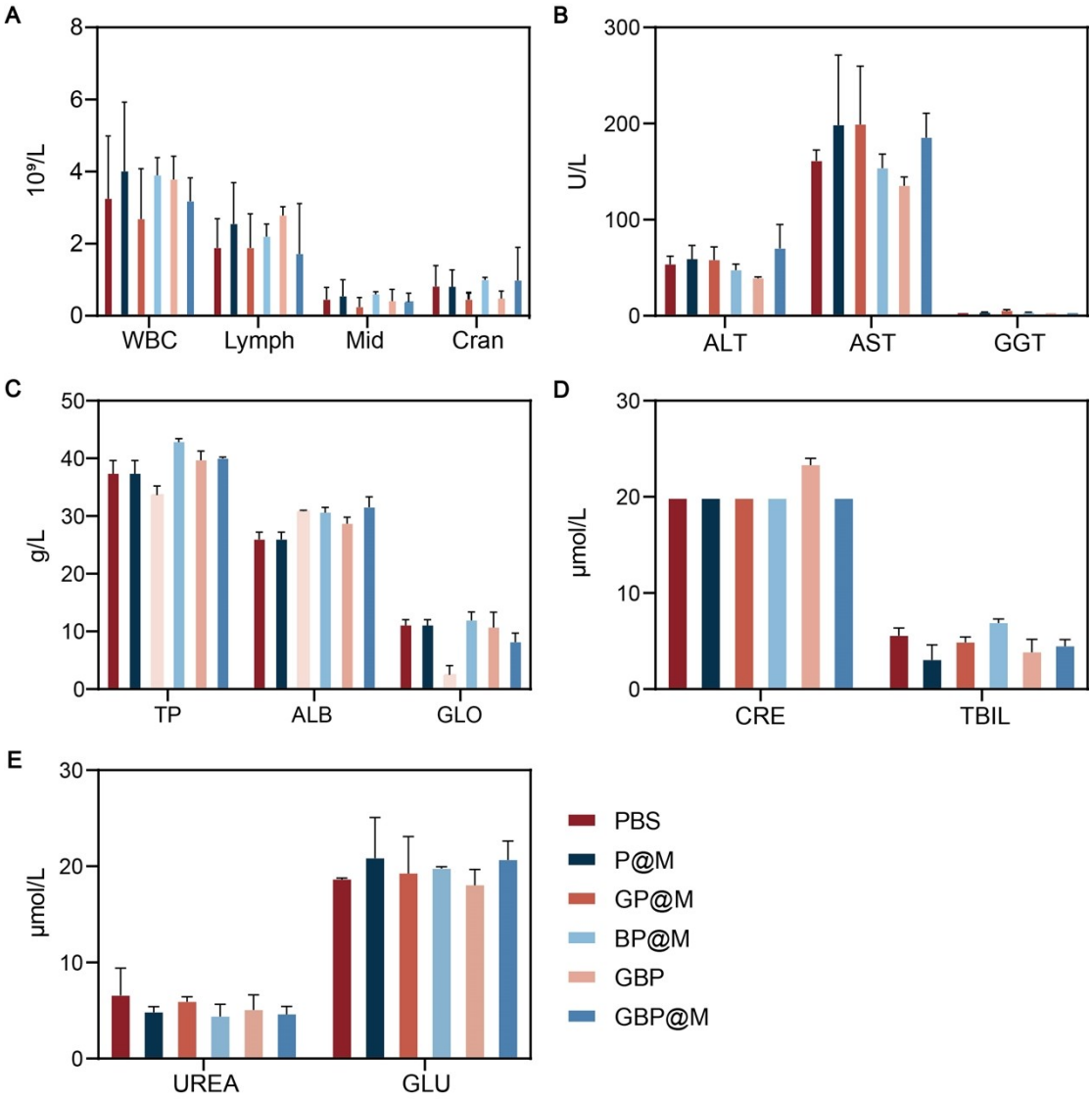

Fig. S18 Blood routine analysis (A) and blood biochemistry data (B-E) of mice measured on Day 14 after receiving various treatments.