

Supplementary Information

Biodegradable photothermal thermosensitive hydrogel treats osteosarcoma by reprogramming macrophages

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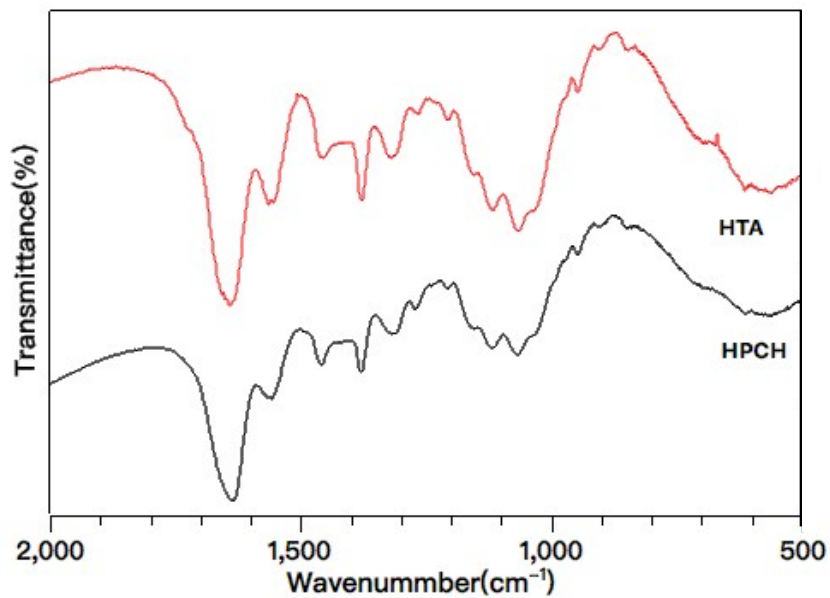


Figure S1: FTIR spectra of HPCH and HTA xerogels.



Figure S2: Injectability (ex vivo injection of HTA into solid tumors to thoroughly show the distribution of the hydrogel). The scale bar was 3mm, respectively.

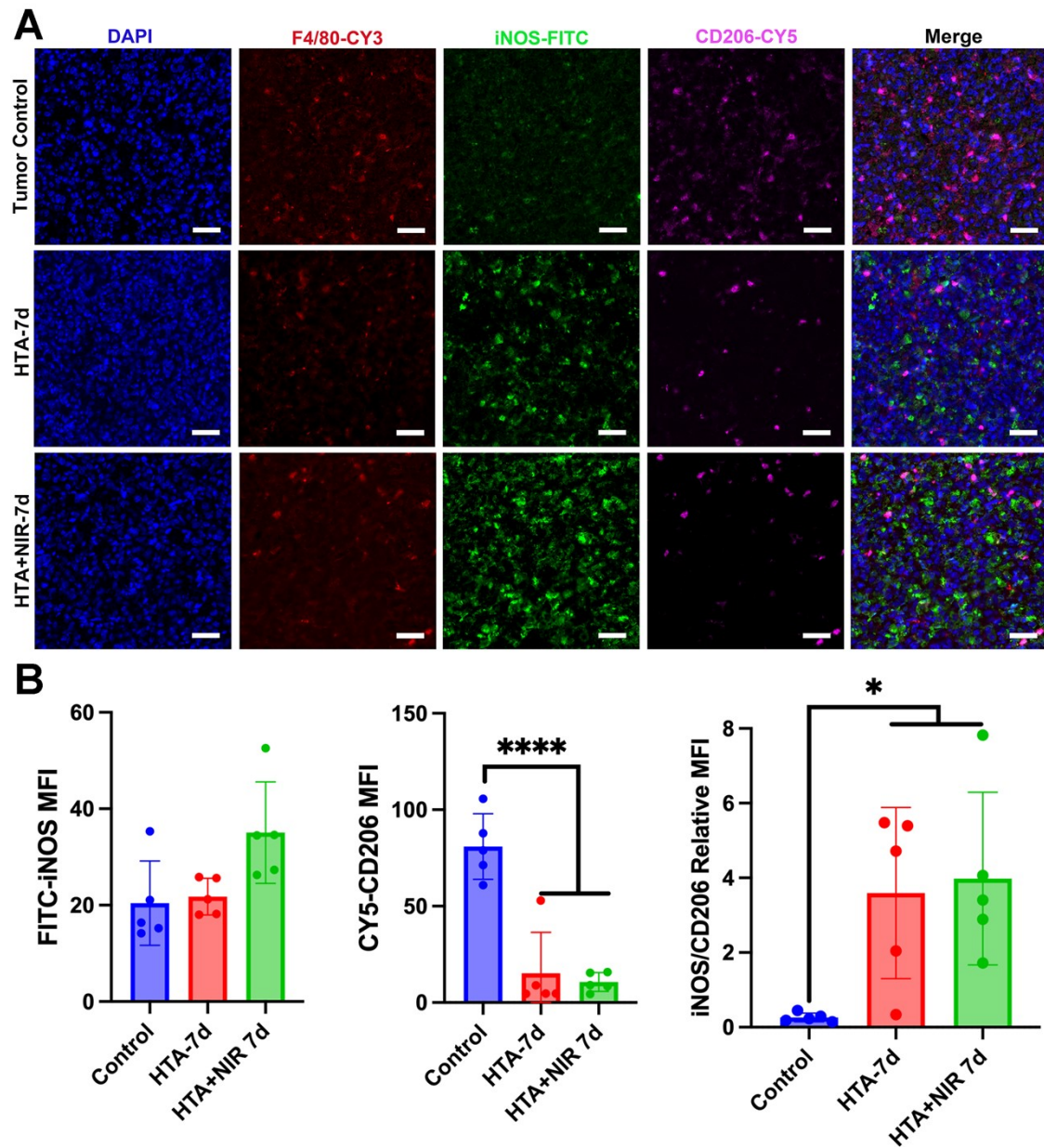


Figure S3: Immunofluorescent staining of *in vivo* macrophage reprogramming after 7-day implantation. **(A)** IF staining of tumor-injected HTA 7 d and with 808 nm laser irradiation (macrophages were marked by F4/80, purple; the M1 type was marked by iNOS, green; and the M2 type was marked by CD206, red). The scale bars were 40 μ m, respectively. **(B)** Mean florescent intensity (MFI) of iNOS and CD206 in polarized macrophages and the iNOS/CD206 ratio (* indicates $P < 0.05$, **** indicates $P < 0.0001$).

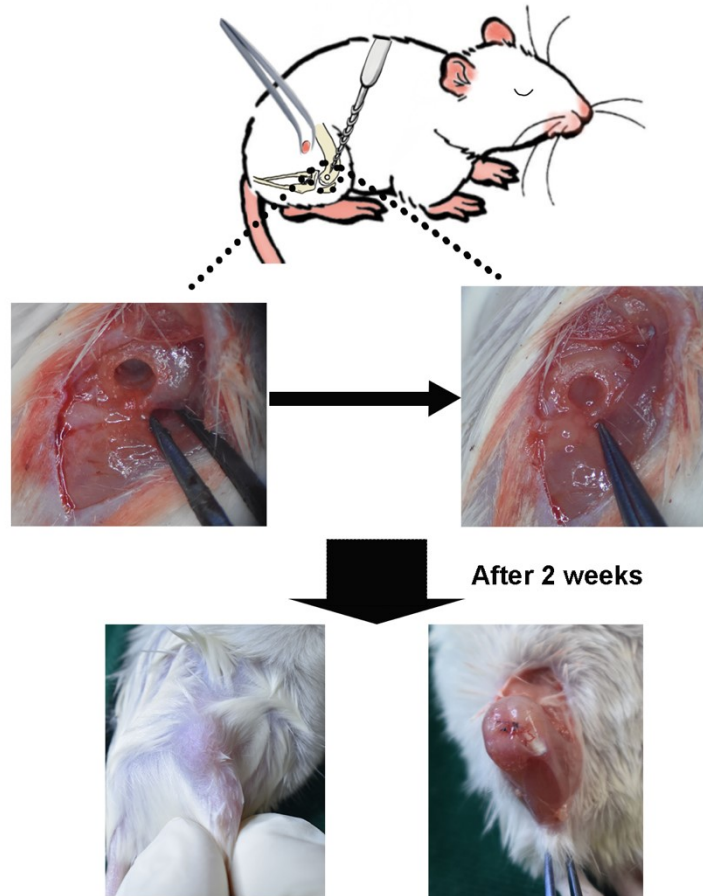


Figure S4: *In situ* osteosarcoma model. After exposing the lateral femoral condyle, the periosteum was removed, and a hole was drilled out 2~2.5 mm in diameter and 2.5~3 mm in depth. Drilling through the contralateral bone cortex was failed. Then, the tumor mass was embedded into the bone defect. After 2 weeks, the *in situ* OS model was constructed.

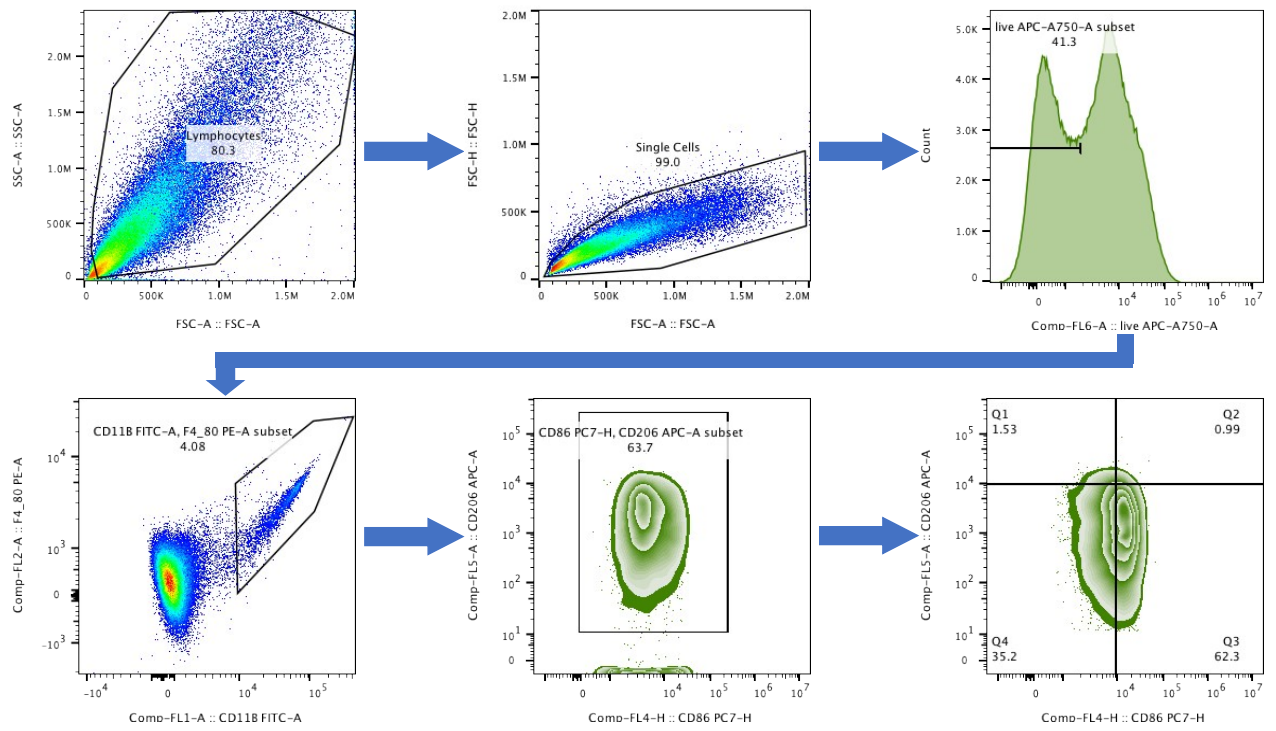


Figure S5: Gating steps of flow cytometry analysis of tumor tissue in vivo.

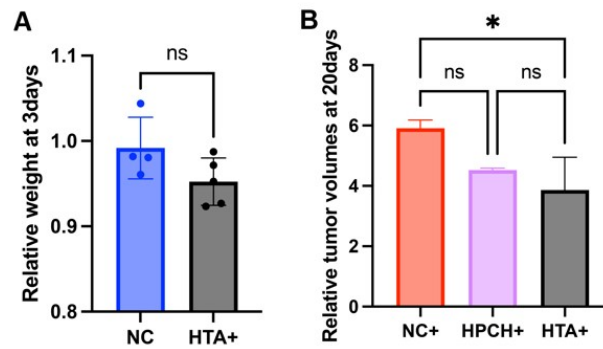


Figure S6: (A) Comparison of relative body weight between NC group and HTA+ group on day 3
 (B) Comparison of relative tumor volumes among NC+, HPCH+, and HTA+ groups at day 20