

Supplementary information

Ferucarbotran, a carboxydextran-coated superparamagnetic iron oxide nanoparticle, induces endosomal recycling contributing to cellular and exosomal EGFR overexpression for cancer therapy

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Animal Model

Due to the commercial unavailability of Ferucarbotran, a small-scale animal experiment was conducted. Animal experiments were carried out according to the Institutional Animal Care and Use Committee (IACUC) of NHRI (NHRI-IACUC) and performed after receiving approval from NHRI-IACUC (103118-A). Five-week-old male Balb-c nude mice were purchased from National Laboratory Animal Center of Taiwan and housed under specific pathogen-free conditions and with a 12 h light/12 h dark cycle. Mice were randomly received subcutaneous injections of 250 μ L of PBS per mouse containing 1.0×10^6 HT-29 cells alone (Tumor alone; n = 2), 1.0×10^6 HT-29 cells mixed with 100 μ g of unlabeled hMSCs-derived exosomes (Tumor + E100; n = 3) or ferucarbotran-labeled hMSCs-derived exosomes (Tumor + *E100; n = 1). The tumor sizes (Figure S1) were measured by caliper two times a week from 25 days to 49 days after tumor challenges and the tumor volume was calculated according to the formula: $0.5 \times \text{length} \times (\text{width})^2$.

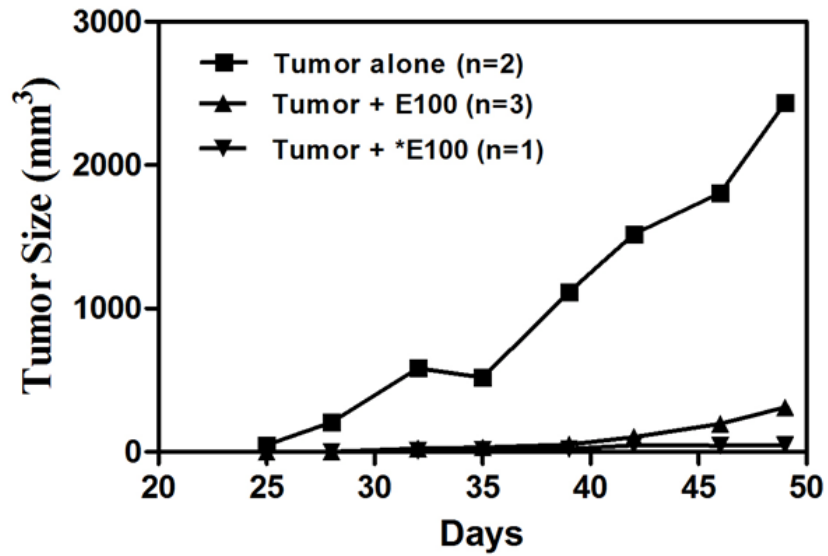


Fig. S1 Tumor size of the HT-29 colon cells mixed with 100 μ g of unlabeled hMSCs-derived exosomes (Tumor + E100) or ferucarbotran-labeled hMSCs-derived exosomes (Tumor + *E100) or just Tumor alone.

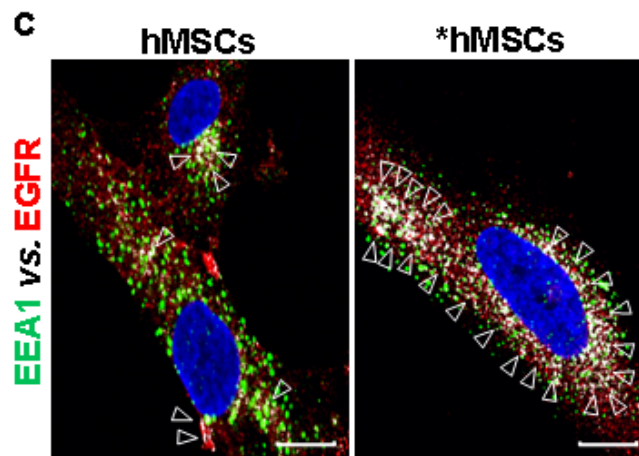
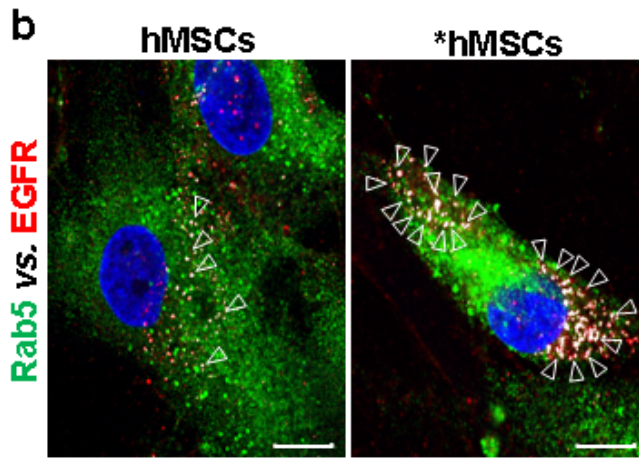
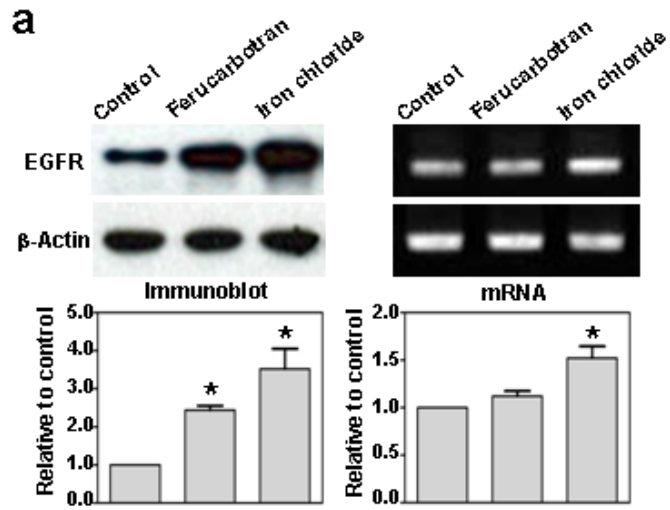


Fig. S2 A large scale image of Figure 1.

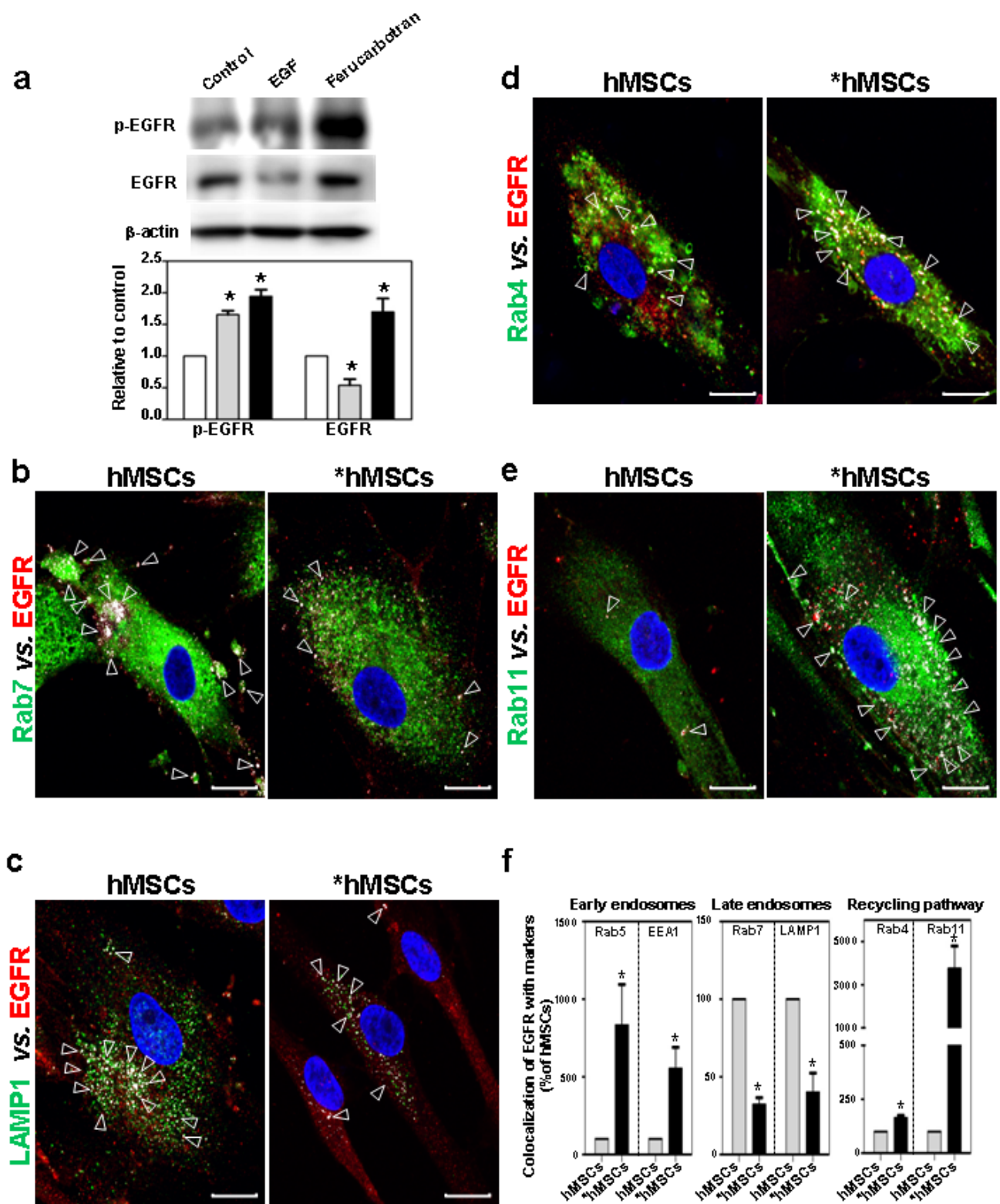


Fig. S3 A large scale image of Figure 2.