Supplementary Fig. S4. SQOR mediated SDH reversal induces succinate accumulation and SMCs-to-ELCs transdifferentiation. (**a**) Schemes showing the mechanism for succinate production from fumarate from the malate-aspartate shuttle (left) and the purine nucleotide cycle (right) via the reversal of SDH. GOT1/2, MDH1/2, FH, ADSL, SQOR, OAA, and AS denote glutamic-oxaloacetic transaminase 1/2, malate dehydrogenase 1/2, fumarate hydratase, adenylosuccinate lyase, sulfide quinone oxidoreductase, oxaloacetate, and adenylosuccinate, respectively. (**b**) The mRNA expression of *GOT1/2*, *MDH1/2*, *FH*, *ADSL*, *SQOR*, *DHOD*, *G3PDH*, *PRODH*, and *ETFDH* in NMIBC (n = 103) and MIBC tissues (n = 62) based on GSE13507 datasets, and in metastatic (M^+BC; n = 23) or non-metastatic (M^-BC; n = 31) bladder cancer patients based on GSE48276 datasets, respectively. (**c**) Kaplan–Meier survival analysis of the correlation of *SQOR* and *MDH2* mRNA level with the overall, and metastasis-free survival and disease-specific survival in bladder cancer patients according to the datasets GSE13507 and GSE48075. (**d**) Real-time PCR analysis of the mRNA of CoQ consumers, including *SQOR*, *DHOD*, *G3PDH*, *PRODH*, and *ETFDH* in NMI-PDBC or MI-PDBC cells. (**e**) IB analysis of expression of SQOR in the stable cancer cells lines. GAPDH serve as a loading control. (**f**) *In vitro* tube formation/IF staining assays were performed in PBSMCs with the indicated treatments. Scale bars, 20 μm. (**g**) The quantification of tube formation ability and in angiogenesis capability in (**f**). (**h**) The tube formation ability and angiogenesis capability were measured in PBSMCs with the indicated treatments. (**i**) Representative immunofluorescence images and quantification of intramuscular α-SMA^+/$CD31^+$ vessels in mice intramuscularly injected with pre-educated PBSMCs. Scale bars, 20 μm. Each error bar in d, g and h represents the mean ± SD of three independent experiments. Statistical analysis was performed using one-way ANOVA with Dunnett's multiple comparison tests for (h), Two-way ANOVA with Šídák's multiple comparisons test for (d, g and i), unpaired two-tailed t tests for (b), and Kaplan-Meier method for (c). $^*P < 0.05$; $^{**}P < 0.01$; $^{***}P < 0.001$; ns, not significant.

Supplementary Fig. S4