

Figure S1. Decrease in pH induces CAF activation of MSCs. (A, B) Decrease in extracellular pH induces the expression of CAF-specific genes not included in Figure 1D and 1E. (C) CAF activation was partially reversed after withdrawal of medium with decreased pH. Human MSCs were stimulated with acidic culture medium (pH=7.0) for 7 days and then cultured with normal medium (pH=7.4). Error bars represent the SEM.

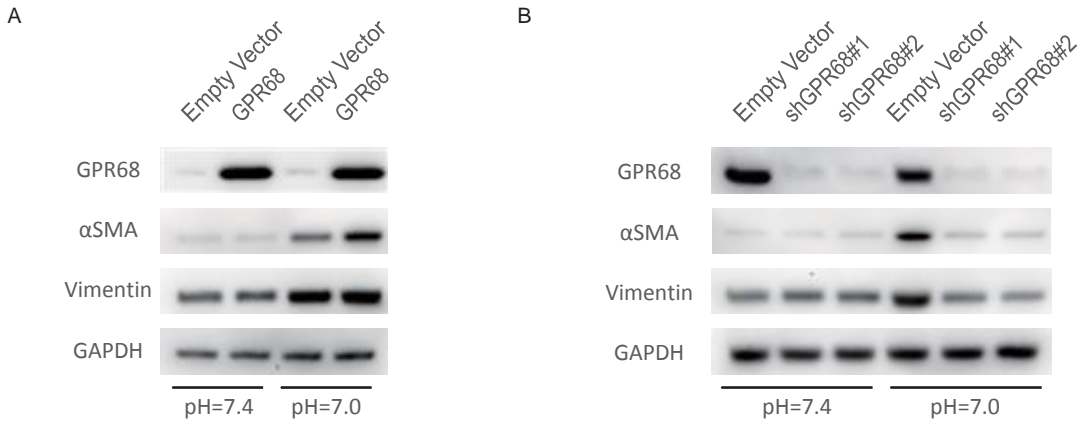


Figure S2. GPR68 promotes CAF activation in response to decreased ECF pH. (A) Overexpression of GPR68 promoted CAF activation at decreased ECF pH. (B) Knockdown of GPR68 inhibits pH-dependent CAF activation.

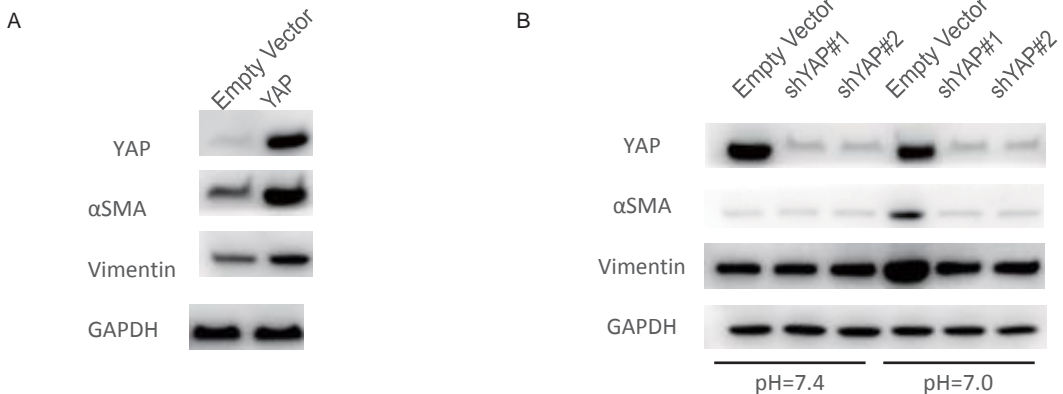


Figure S3. YAP is required for pH-dependent CAF activation. (A) Overexpression of YAP activated the expression of CAF-specific genes. (B) Silence of YAP inhibited CAF activation in response to decreased pH.

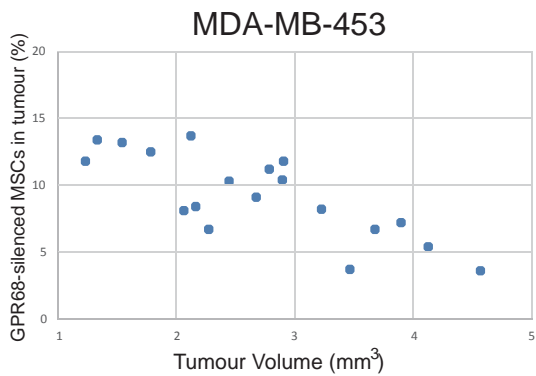
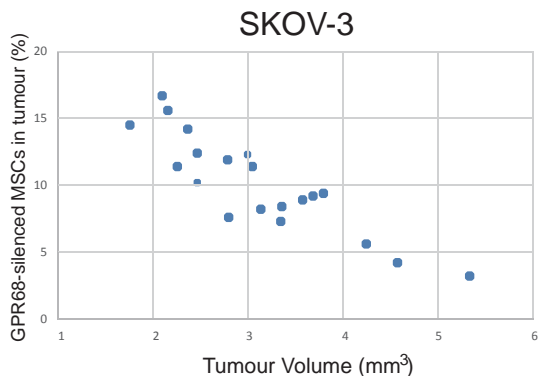


Figure S4. The relationship between GPR68-silenced MSC proportion and tumour volume is shown. The proportion of GPR68-silenced MSCs was determined by flow cytometry detection of GPR-labelling.

Supplementary Table 1. Surface markers for MSCs.

Marker	Line 1	Line 2	Line 3
CD105	95.6%	96.5%	96.2%
CD90	97.1%	95.9%	97.7%
CD73	95.3%	95.1%	95.9%
CD45	4.3%	4.1%	3.3%
CD34	2.8%	2.6%	3.1%
HLA-DR	3.9%	1.9%	4.0%