

Figure S2. Correlation of POSTN and FAP with macrophage markers and characterization of POSTN⁺ fibroblast subtypes in HNSCC. (A) Expression levels of POSTN and FAP showed a positively correlation with the M1 macrophage marker CD86 ($P=9.4 \times 10^{-13}$; $P<2.2 \times 10^{-16}$). (B) Expression levels of POSTN and FAP showed a positively correlation with the M2 macrophage marker CD206 ($P<2.2 \times 10^{-16}$; $P<2.2 \times 10^{-16}$). (C) HNSCC-TCGA was identified into two molecular subtypes. (D) t-SNE plots showed the discrimination between the POSTN⁻/POSTN⁺ fibroblasts. (E) The distribution of StromalScore ($P<2.2 \times 10^{-16}$), ESTIMATEScore ($P<2.2 \times 10^{-16}$), ImmuneScore ($P=0.21$), POSTN_Score ($P<2.2 \times 10^{-16}$) and TumorPurity ($P<2.2 \times 10^{-16}$) between POSTN⁻/POSTN⁺ fibroblasts. Statistical significance was determined by unpaired two-tailed Student's t-test. Error bars represent the mean \pm SEM. POSTN, perostin; FAP, fibroblast activation protein; HNSCC, head and neck squamous cell carcinoma; t-SNE, t-distributed stochastic neighbor embedding.

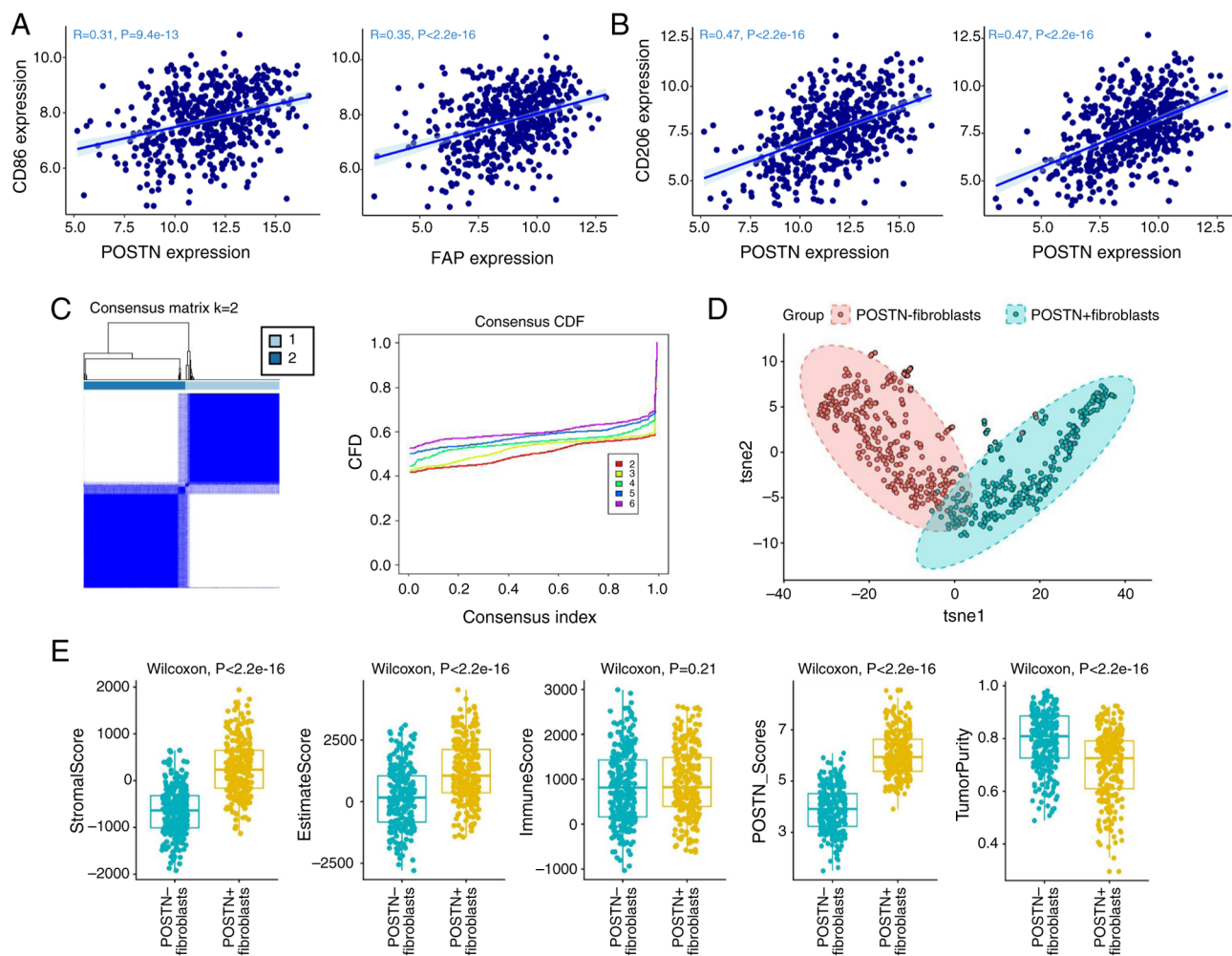


Figure S3. sEV POSTN-blocking antibody modulates M2 macrophage polarization. (A-D) The mRNA expression of CD163 and CD206 expression in macrophages were incubated with CAF-S5/-S6 sEV-blocking POSTN antibody were analyzed by (A) RT-qPCR, (B) western blotting and (C and D) flow cytometry. Each experiment was replicated three times. Statistical significance was determined by Unpaired two-tailed Student's t-test, * $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$. Error bars represent the mean \pm SEM. For source data for blotting assays, see Fig. S5. sEV, small extracellular vesicles; POSTN, perostin; RT-qPCR, reverse transcription-quantitative PCR.

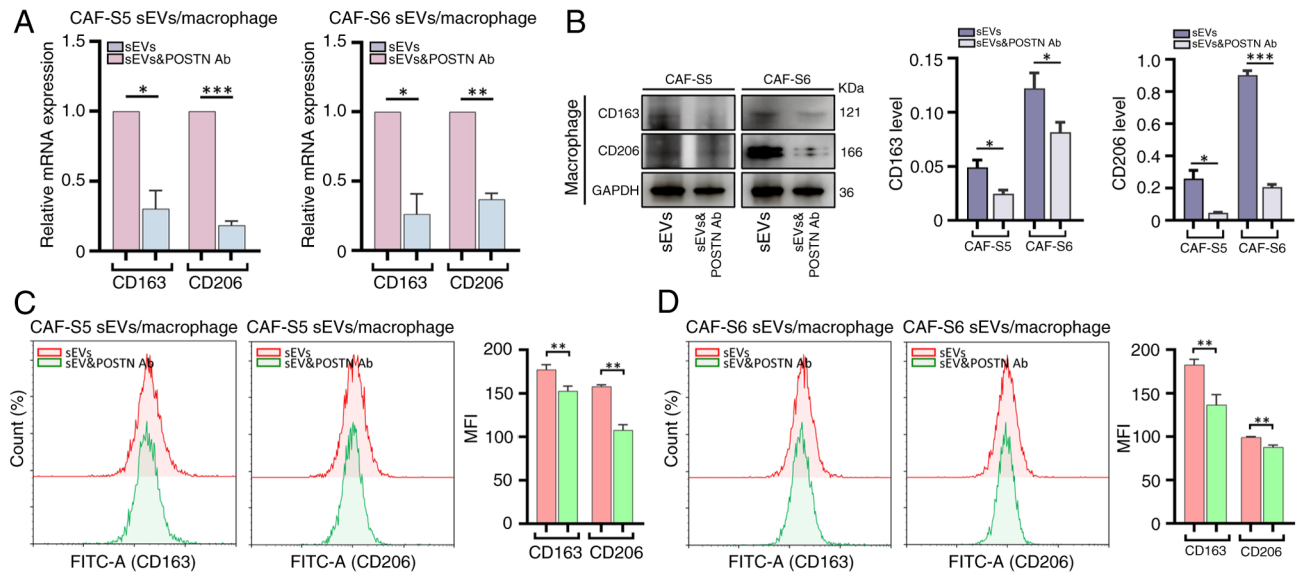


Figure S4. BMP4 levels in in sEV-derived CAF-S5/-S6. BMP4 levels in sEV-derived CAF-S5/-S6 transfected with shNC and shPOSTN were analyzed by ELISA. Statistical significance was determined by unpaired two-tailed Student's t-test, *P<0.05. Error bars represent the mean \pm SEM. sEV, small extracellular vesicles; POSTN, perostin; sh, short hairpin; NC, negative control.

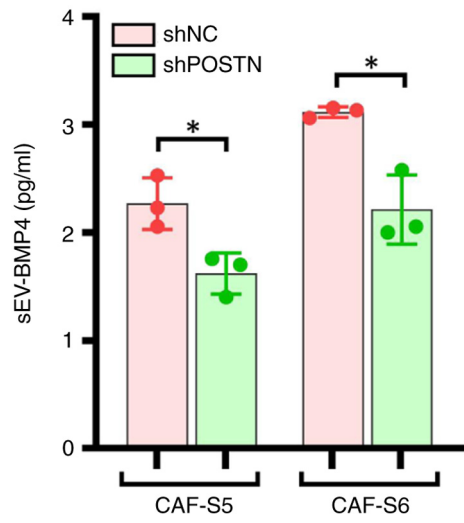


Figure S5. Original data for the blots.

Figure 3C

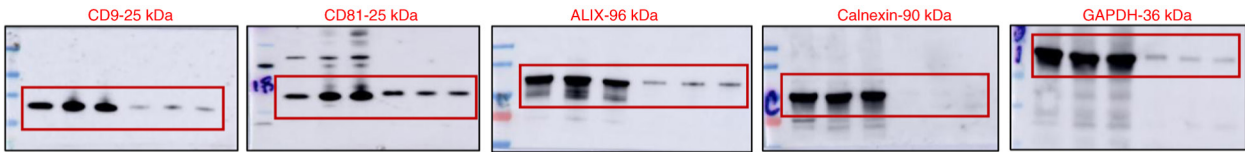


Figure 3F

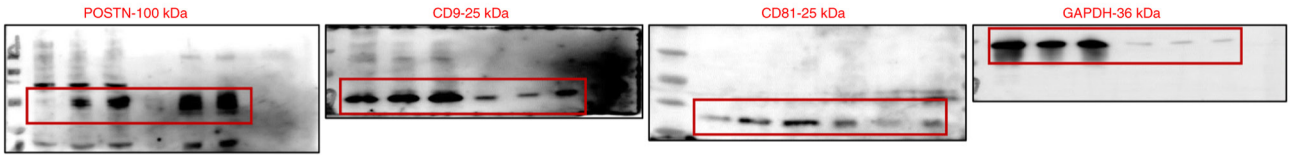


Figure 3F

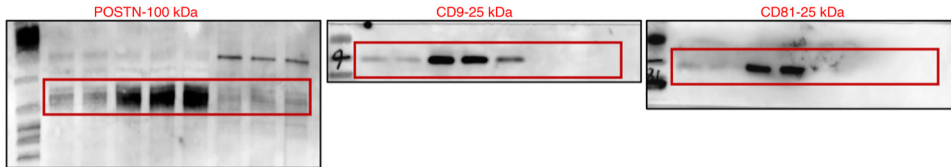


Figure 4A

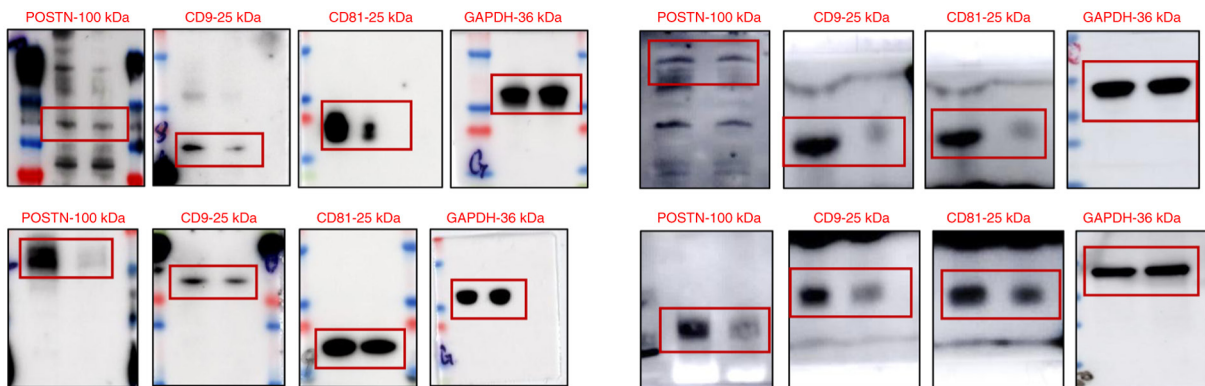


Figure 4H

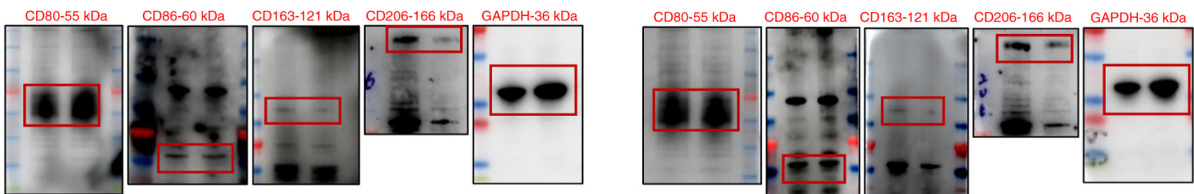


Figure 5K

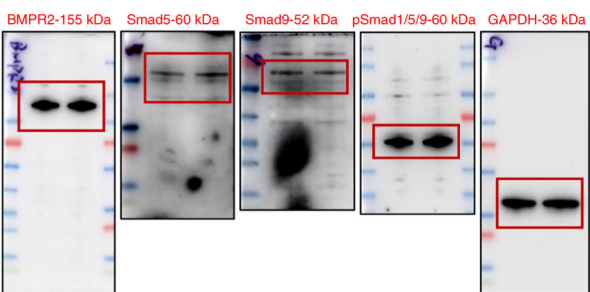


Figure 5L

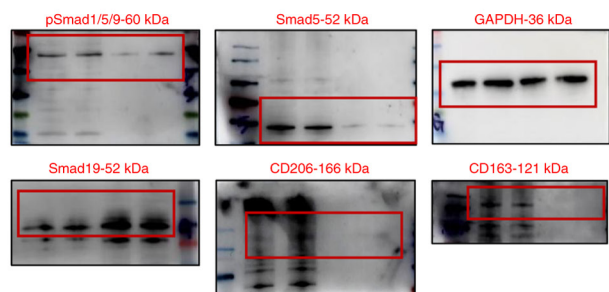


Figure S3B

