Figure S1. Presence of CAFs in ascitic MCAs. (A) Representative images of immunohistochemistry staining for FSP-1 expression in ascitic MCAs. FSP-1-positive MCAs were detected in all 12 patients studied. Scale bars, $20 \ \mu$ m. (B) Representative images of immunohistochemical staining for FAP expression in ascitic MCAs. FAP-positive MCAs were detected in all 12 patients studied. Scale bars, $20 \ \mu$ m. (B) Representative images of immunohistochemical staining for FAP expression in ascitic MCAs. FAP-positive MCAs were detected in all 12 patients studied. Scale bars, $20 \ \mu$ m. CAFs, cancer-associated fibroblasts; MCAs, multicellular aggregates; FSP-1, fibroblast-specific protein 1; FAP, fibroblast activation protein.



Figure S2. MCAs were predominantly composed of tumor cells. (A) Representative images of immunohistochemical staining for Moc-31 (epithelial tumor marker), PAX8 (ovarian cancer marker) and Ki-67 expression in ascitic MCAs. Scale bars, 20 μ m. (B) Representative images of immunohistochemical staining for mesothelial markers, including claudin 4, calretinin and ER. Scale bars, 20 μ m. MCAs, multicellular aggregates; ER, estrogen receptor.



Figure S3. The number and size of the MCAs increased with an increasing proportion of CAFs. Representative images of MCA formation assays. The cell suspensions contained an increasing proportion of CAFs from 0 to 1:8, 1:5 and 1:1. Scale bars, $200 \mu m$. MCAs, multicellular aggregates; CAFs, cancer-associated fibroblasts.

