Expanded View Figures

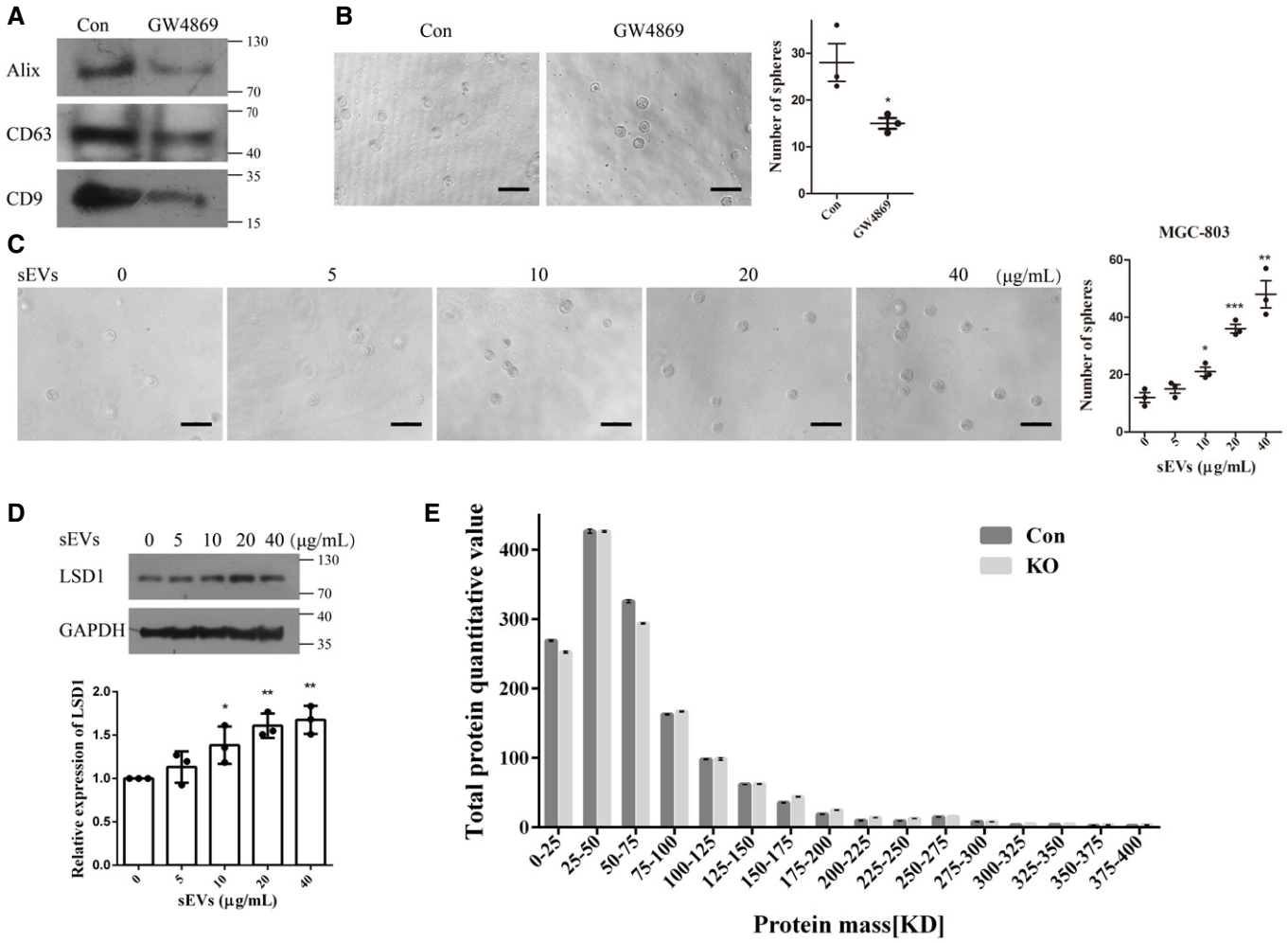

Figure EV1. Small extracellular vesicles (sEVs) promote sphere formation in recipient cells.

A sEV marker proteins were detected using Western blotting to determine the amount of sEVs secreted by equal numbers of cells (Con indicates sEVs isolated from MGC-803 cells; GW4869 indicates sEVs isolated from GW4869-treated MGC-803 cells).

B Sphere formation assay results of MGC-803 cells treated with sEVs (from equal number of cells) from control or GW4869-treated cell culture medium. Scale bar = 100 μm (n = 3 biological replicates; mean ± standard error of mean (SEM); *P = 0.0365; two-tailed unpaired Student's t-test).

C Sphere formation assay results of MGC-803 cells treated with different doses of sEVs as indicated. Scale bar = 100 μm (n = 3 biological replicates; mean ± SEM; *P = 0.0176, ***P = 0.0005, and **P = 0.0020; two-tailed unpaired Student's t-test).

D Expression level of LSD1 in MGC-803 cells treated with different doses of sEVs as indicated (n = 3 biological replicates; mean ± SEM; *P(10 μg/ml) = 0.0362, **P (20 μg/ml) = 0.0017, and **P(40 μg/ml) = 0.0019; two-tailed unpaired Student's t-test; GAPDH was used as a loading control for cell lysis).

E Protein contents in sEVs from control (Con) and *LSD1* knockout (KO) cells were profiled using mass spectrometry (n = 3 biological replicates; mean ± SEM).

Source data are available online for this figure.

Figure EV2. LSD1 expression is correlated with gastric cancer cell stemness.

A Expression level of LSD1 in MGC-803, *LSD1* knockout (KO) MGC-803, *LSD1* KO MGC-803 cells transfected with LSD1-encoding plasmid, and GSK-LSD1-treated MGC-803 cells. GAPDH was used as a loading control.

B Sphere formation assay results of MGC-803 cells subjected to different treatments as indicated in the figure. Scale bar = 100 μm (n = 3 biological replicates; mean ± standard error mean (SEM); $^{**}P = 0.0042$ and $^{*}P = 0.0146$; two-tailed unpaired Student's t-test).

C Correlation of LSD1 (KDM1A) with Nanog, OCT4, and CD44 determined using Gene Expression Profiling Interactive Analysis (GEPIA) datasets (Pearson's test).

D, E Expression levels of LSD1 (D) and SOX2 (E) in 172 pairs of gastric cancer tissues and adjacent non-cancerous tissues were examined using immunohistochemical analysis (n = 172 paired tissues; mean ± SEM; $^{***}P < 0.0001$ (LSD1) and $^{*}P = 0.0348$ (SOX2); two-tailed unpaired Student's t-test).

F Representative images are shown as indicated. Scale bar = 100 μm.

Source data are available online for this figure.

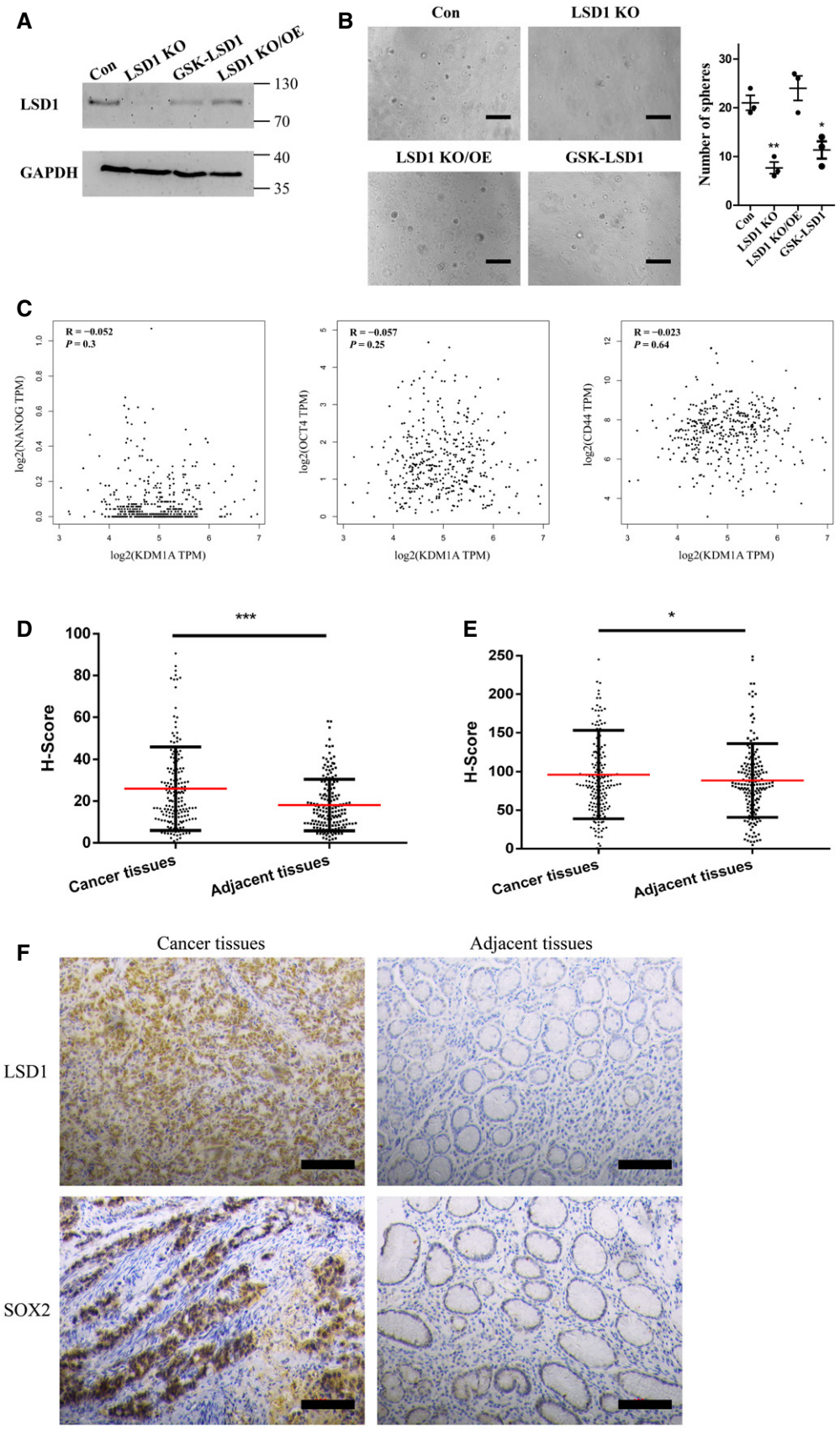

Figure EV2.

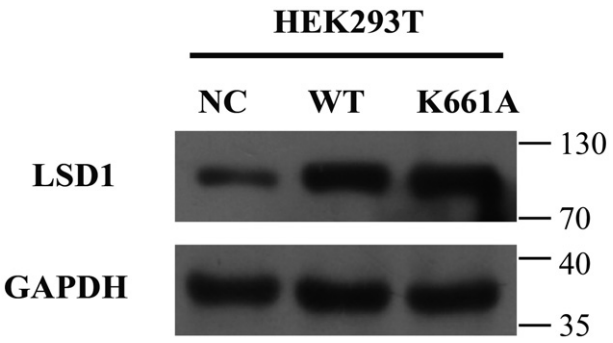

Figure EV3. Detection of LSD1 in HEK293T cells transfected with different vectors.

Expression levels of LSD1 in HEK293T cells transfected with the negative control, LSD1-encoding, or LSD1 K661A mutant-encoding plasmids.

Source data are available online for this figure.

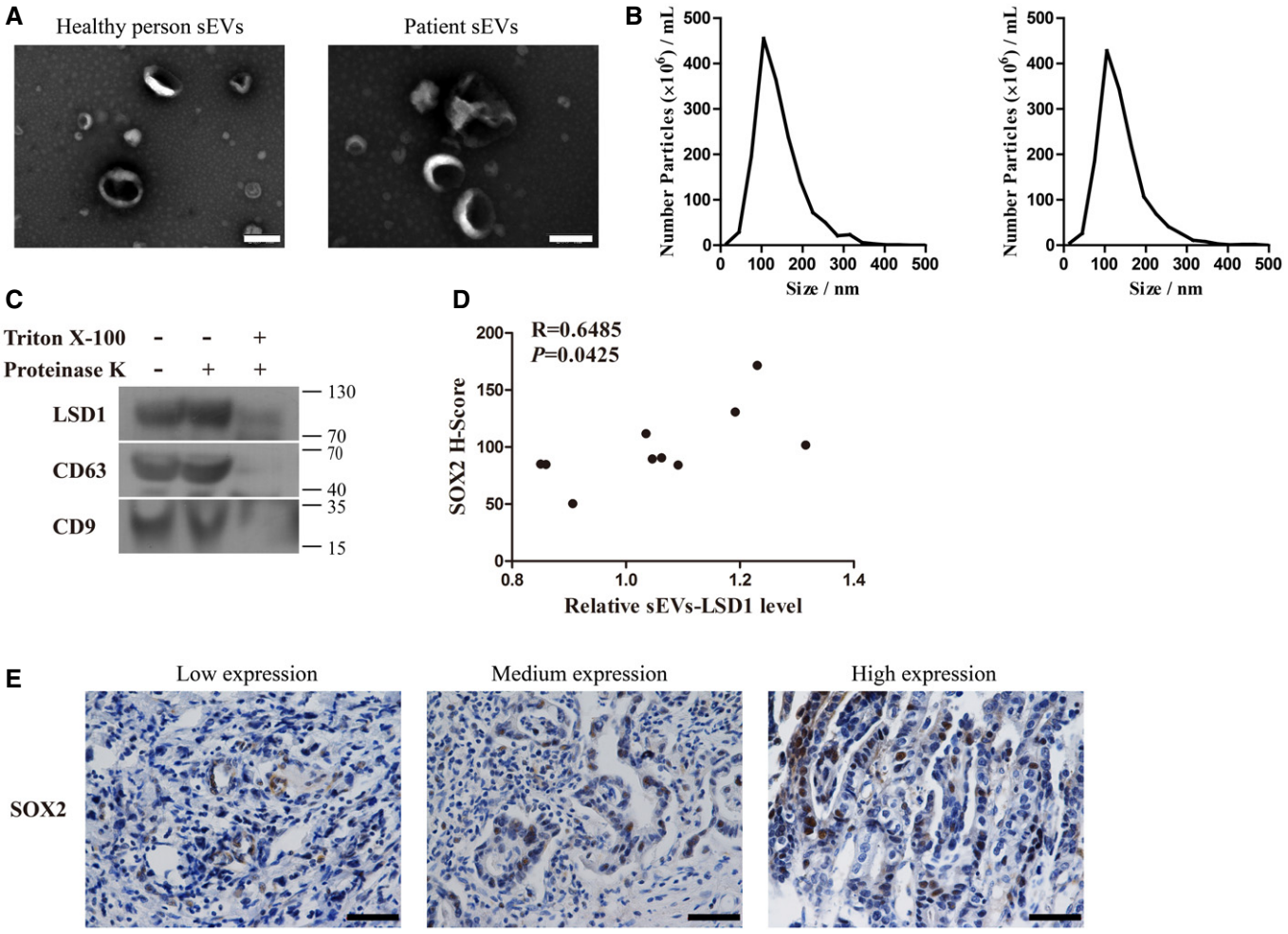

Figure EV4. Characterization of patient plasma-derived small extracellular vesicles (sEVs).

A, B Transmission electron microscopy image (A) and the size distribution (B) of sEVs from the plasma of healthy individuals (left panel) and patients with gastric cancer (right panel). Scale bar = 200 nm.

C Expression levels of LSD1, CD63, and CD9 in sEVs with indicated treatment.

D Correlation between the amount of LSD1-containing sEVs and SOX2 in tissues of 10 patients used to isolate sEVs (Pearson's test).

E Representative images are shown as indicated. Scale bar = 50 μm.

Source data are available online for this figure.