Data S1.

Extraction and identification of exosomes. At passage three, the well-grown human umbilical cord mesenchymal stem cells that reached 80% confluence were washed three times with sterile PBS and cultured with the serum-free Dulbecco's Modified Eagle's Medium (Gibco; Thermo Fisher Scientific, Inc.) in the cell incubator at 37˚C for 24 h. Subsequently, the supernatant, referred to as the conditional medium, was harvested prior to three centrifugations (300 x g for 10 min; 2,000 x g for 30 min; and at 10,000 x g for 1 h; all at 4˚C), followed by filtration through a 0.22-μm filter to remove cell debris and other larger particles. The protein concentration in the extracted exosomes was measured using a bicinchoninic acid protein detection kit and samples were stored at -80˚C.

After resuspension, the exosome resuspension was placed on the sealing membrane. In order to protect the exosomes from destruction by the transmission electron microscope, the copper grid was floated on the droplet for 20 min, then transferred to the glutaraldehyde droplet for about 5 min and treated with 4% dioxy uranium acetate for 10 min on ice (all at 0˚C). The exosomes were observed under an 80-kV transmission electron microscope after air-drying for 30 min. Exosome size and morphology were observed using a JEM-1011 electron microscope (JEOL, Ltd.) and analyzed using digital Micrograph 3.9 (Gatan, Inc.).

Construction of resistant ovarian cancer (OC) cell lines. The OC cell lines SKOV3 and A2780 were obtained from American Type Culture Collection. The SKOV3 cells were treated with various concentrations of docetaxel (0, 0.5, 1.0, 1.5, 2.0 and 5.0 μM; Sigma-Aldrich; Merck KGaA) at 37˚C for 2 h, whereas the A2780 cells were treated with various concentrations of taxane (0, 0.5, 1.0, 2.5, 5.0 and 10.0 μM; Sigma-Aldrich; Merck KGaA) at 37˚C for 2 h. All cells were maintained in RPMI-1640 medium (Gibco; Thermo Fisher Scientific, Inc.) with 10% FBS (Gibco; Thermo Fisher Scientific, Inc.), 100 U/ml penicillin and 100 mg/ml streptomycin (Invitrogen; Thermo Fisher Scientific, Inc.) with 5% CO_2 at 37˚C.