Novel Therapeutic Approach Using Drug-loaded Adipose-derived Stem Cells for Pancreatic Cancer

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**Supplementary Figure 1. Amount of pirarubicin in Pir-PLGA NPs.**

PLGA (25 mg) and pirarubicin (2.5, 3.5, 4.0, or 5.0 mg) were compounded at a ratio of 50:50 in an acetone solution, and nanoparticles were formed in polyvinyl alcohol (PVA) by ultrasonic irradiation. The amount of conjugated pirarubicin/1 mg of Pir-PLGA NPs was calculated after measuring the concentration of pirarubicin in the solvent.
Supplementary Figure 2. Proliferation activity of Pir-PLGA NP-loaded AdSCs. PLGA NPs (0, 10, 25, and 50 µg) and Pir-PLGA NPs (0, 10, 25, 50 and 100 µg) were incorporated into AdSCs (1.0×10^5 cells). NP 0 µg incorporated into the AdSCs is the control (Ctrl). (a) The proliferation activity of AdSCs loaded with PLGA NPs was examined at 16 h and 24 h after incubation. (b) The proliferation activity of AdSCs loaded with Pir-PLGA NPs was examined at 16 h and 24 h after incubation. ns, not significant; ***, P<0.001; and ****, P<0.0001 vs. Ctrl.
Supplementary Figure 3. Migration activity of PLGA NP-loaded AdSCs.

PLGA NPs (0, 10, 25, and 50 µg) and Pir-PLGA NPs (0, 10, 25, 50 and 100 µg) were incorporated into AdSCs (1.0×10⁵ cells). NP 0 µg incorporated into the AdSCs is the control (Ctrl). (a) The migration of AdSCs loaded with PLGA NPs toward the 10% FBS-containing medium was examined at 4 h after incubation. (b) The migration of AdSCs loaded with Pir-PLGA NPs toward the 10% FBS-containing medium was examined at 4 h after incubation. ns, not significant vs. Ctrl.
Supplementary Figure 4. Assessment of inflammatory cell infiltration in the xenograft/tumor.

The tumors were harvested on day 21 after the administration of PBS (Control, Ctrl), AdSCs (5.0×10^5) alone, Pir-PLGA NPs (250 µg) alone, or Pir-PLGA NP (250 µg)-loaded AdSCs (5.0×10^5). The tumors were stained with an antibody against CD3 (red, upper panels) as a lymphocyte marker and an antibody against F4/80 (red, lower panels) as a macrophage marker. The marginal and central sites of the tumor were assessed. The thymus of wild-type mice was used as a positive control for the fluorescence immunostaining.