Supplementary figure legends

Fig. S1. Exosomes from FAK depleted human fibroblasts are deficient in promoting tumorigenic properties. **A.** Trans-well migration assays for MDA-MB-231 cells treated with PBS or exosomes from shCtrl or shFAK transduced WI-38 fibroblasts. **B.** EDU incorporation assays for MDA-MB-231 cells treated with PBS or exosomes from shCtrl or shFAK transduced WI-38 fibroblasts.

Fig. S2. Quantitative-PCR analysis of miR levels in exosomes from WI-38 fibroblasts transduced with shCtrl or shFAK and educated by MCF7 cells.

Fig. S3. A. Immuno-blots showing levels of Twist1, Ccne1 and GAPDH in PyMT cells treated with 4 µg of purified exosomes from Ctrl or cKO CAFs. **B.** Quantification of respective protein levels from purified exosomes normalized against GAPDH as described in A.

Fig. S4. A. Quantitative-PCR analysis of Ccne1 and Twist1 levels in PyMT cells treated with 4 µg of purified exosomes from Ctrl or cKO CAFs along with 100nM scramble or miR-148a inhibitor. **B.** Quantitative-PCR analysis of Wnt10b levels in PyMT cells treated with 4 µg of purified exosomes from Ctrl or cKO CAFs along with 100nM scramble or miR-16-1 inhibitor.

Fig. S5. A. Quantitative-PCR analysis of miR-16-1 and miR-148a levels in the exosomes from cKO CAF cells treated with 100nM scramble, miR-16-1 or miR-148a inhibitors. **B.** Trans-well migration assays for PyMT cells pre-treated with exosomes from cKO CAFs treated with 100nM scramble, miR-16-1 or miR-148a inhibitors.

Fig. S6. A. EdU incorporation assay for PyMT cells treated with 20 nM of scramble, miR-16-1 or miR-148a inhibitors. **B.** EdU incorporation assay for PyMT cells treated with 10 nM, 50 nM or 100 nM of miR-16-1 or miR-148a inhibitors.

Fig. S7. A working model on the inhibition of tumor cell functions and lung metastasis mediated by FAK-null CAF derived exosomes enriched with miR-16-1 and miR-148a.

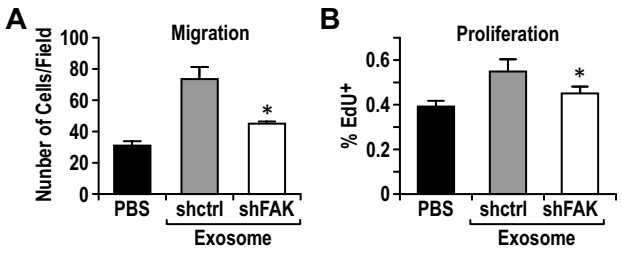
A
Migration
Number of Cells/Field
100
80
60
40
20
0
*
PBS
shctrl
shFAK
Exosome
B
Proliferation
% EdU+
0.6
0.4
0.2
0
*
PBS
shctrl
shFAK
Exosome

Figure S1

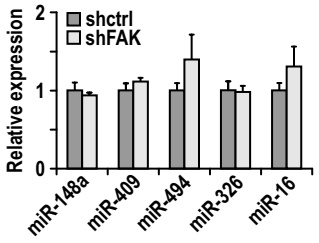
shctrl
shFAK
Relative expression
2
1
0
miR-148a
miR-409
miR-494
miR-326
miR-16

Figure S2

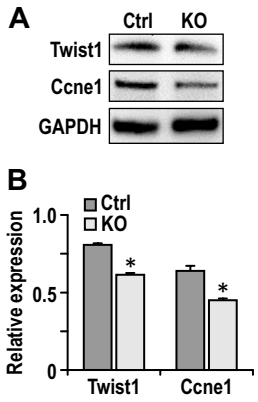
A
Ctrl
KO
Twist1
Ccne1
GAPDH
B
Ctrl
KO
Relative expression
1.0
0.5
0
*
*
Twist1
Ccne1

Figure S3

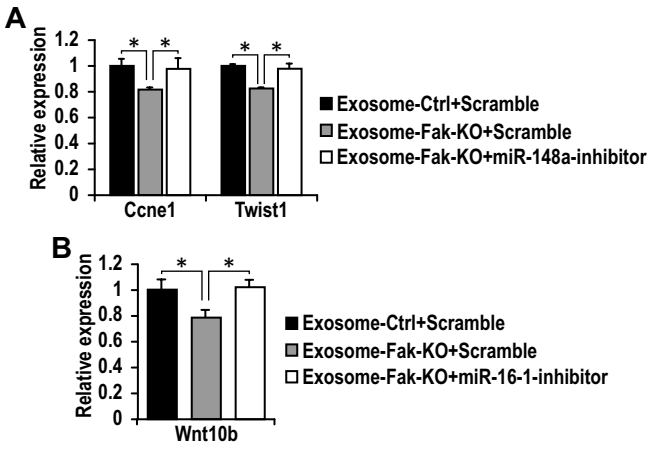
A
Relative expression
1.2
1
0.8
0.6
0.4
0.2
0
*
*
*
*
Ccne1
Twist1
Exosome-Ctrl+Scramble
Exosome-Fak-KO+Scramble
Exosome-Fak-KO+miR-148a-inhibitor
B
Relative expression
1.2
1
0.8
0.6
0.4
0.2
0
*
*
Wnt10b
Exosome-Ctrl+Scramble
Exosome-Fak-KO+Scramble
Exosome-Fak-KO+miR-16-1-inhibitor

Figure S4

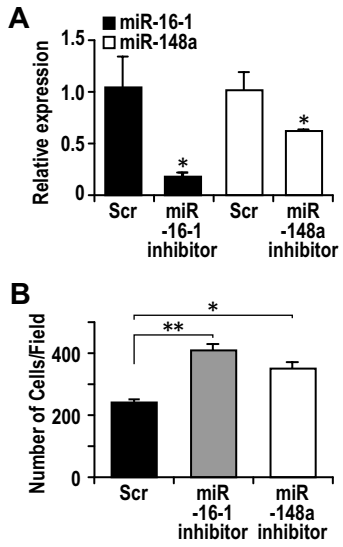
A
miR-16-1
miR-148a
Relative expression
1.5
1.0
0.5
0
*
*
Scr
miR -16-1 inhibitor
Scr
miR -148a inhibitor
B
Number of Cells/Field
*
**
400
200
0
Scr
miR -16-1 inhibitor
miR -148a inhibitor

Figure S5

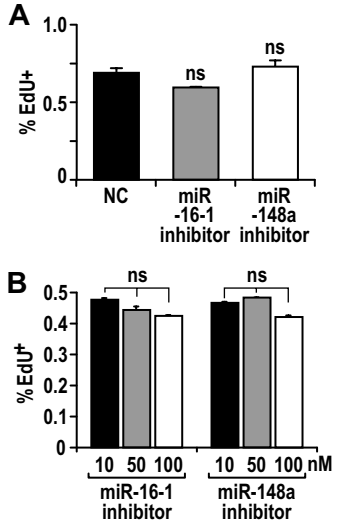
A
1.0
0.5
0
% EdU+
ns
ns
NC
miR -16-1 inhibitor
miR -148a inhibitor
B
0.5
0.4
0.3
0.2
0.1
0
% EdU+
ns
ns
10 50 100
10 50 100 nM
miR-16-1 inhibitor
miR-148a inhibitor

Figure S6

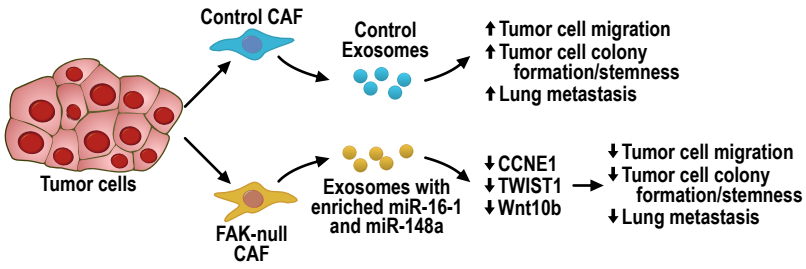
Control CAF
Control Exosomes
↑Tumor cell migration
↑Tumor cell colony formation/stemness
↑Lung metastasis
Tumor cells
FAK-null CAF
Exosomes with enriched miR-16-1 and miR-148a
↓CCNE1
↓TWIST1
↓Wnt10b
↓Tumor cell migration
↓Tumor cell colony formation/stemness
↓Lung metastasis

Figure S7