**Supplemental Figure 1: Thrombotic activity of exosomes and microvesicles from tumor cells**

For each cell line, the thrombotic activity of exosomes and MVs was tested using either pure fibrin clots or clots produced in platelet-poor plasma, 30μg of exosomes or MVs was added to fibrinogen or platelet-poor plasma. The optical density (OD) was measured at 350 nm every 2 minutes for 1 hour at 37°C. α-thrombin was added in place of the exosomes or microvesicles as a positive control. Thrombotic activity in presence of fibrinogen is shown for MVs (A1) and exosomes (B1) from MCF7, MVs (A1) and exosomes (B1) from MCF7-PMA, MVs (C1) and exosomes (D1) from NB4, MVs (C1) and exosomes (D1) from NB4-ATRA, and exosomes (E1) from A549. Also, thrombotic activity in presence of human plasma is shown for MVs (A2) and exosomes (B2) from MCF7, MVs (A2) and exosomes (B2) from MCF7-PMA, MVs (C2) and exosomes (D2) from NB4, MVs (C2) and exosomes (D2) from NB4-ATRA, and exosomes (E2) from A549. *P ≤ 0.05, **P ≤ 0.01, ***P ≤ 0.001, and ****P ≤ 0.0001, Mann-Whitney test (one-tailed).

**Supplemental Figure 2: Exosomes and microvesicles from different tumor cells express plasminogen receptors and plasminogen activators**

The expression of plasminogen receptors (S100A10, S100A4, Plg-rkt, enolase, histone H2B and cytokeratin 8) and plasminogen activators (tPA and uPA) was analyzed by Western Blot for MDA-MB-231 (A), MCF7 (B) and A549 (C) cells. The analysis was performed with three separate samples using 30 μg of protein. The following primary antibodies used were: S100A10 antibody (clone 610071; BD Transduction laboratories; Mississauga, ON, Canada), histone H2B antibody (clone ab52599; Abcam; Toronto, ON, Canada), cytokeratin 8 antibody (clone ab53280; Abcam), GAPDH antibody (clone sc25778; Santa Cruz Biotechnology; Mississauga, ON, Canada), non-neuronal enolase antibody (clone ab54979; Abcam), tPA antibody (clone sc5239; Santa Cruz
Biotechnology), uPA antibody (clone sc6830; Santa Cruz Biotechnology), and S100A4 antibody (clone ab27957; Abcam). The Plg-rkt antibody was a kind gift from Dr. Lindsey Miles (Scripps Research Institute, San Diego, Ca, USA).

**Supplemental Figure 3: Fibrinolytic activity of exosomes from A549 cancer cells on fibrin-clot.**

The analysis was performed on A549 (A). Each experiment was repeated 3 times with different samples. ****P ≤ 0.0001, Mann-Whitney test (one-tailed).

A fibrin-clot was formed by the incubation of thrombin with pure fibrinogen. Then, exosomes and MVs (30 μg of protein) were added to the top of clot followed by addition of plasminogen (0.15 μM) with or without inhibitor (100 mM ε-AcA or 2.2 μM apro). For a positive control, plasminogen (0.15 μM) and tPA (25 nM) was added to the fibrin clot. OD was measured at 350 nm every 20 minutes for 18 hours at 37°C. Results are represented as the mean ±SEM (n = 3 independent samples). The percent of clot retention is shown for exosomes (A1) from A549. A representative photograph of the experiment is shown for exosomes (B2) from A549.

**Supplemental Figure 4: Fibrinolytic activity of exosomes and microvesicles from cancer cells on the plasma-clot.**

Fibrinolytic activity on a plasma clot was measured with exosomes and MVs isolated from three cell lines: MCF7 cells incubated in the absence (A1-A2 and B1-B2) or presence (C1-C2 and D1-D2) of 100nM PMA, NB4 cells incubated in the absence (E1-E2 and F1-F2) or presence (G1-G2 and H1-H2) of 100 nM ATRA, and A549 cells (I1-I2). Each experiment was repeated 3 times with different samples. ****P ≤ 0.0001, Mann-Whitney test (one-tailed).
The plasma-clot was formed. Then, exosomes and MVs (30 μg of proteins) were added on the top of clot in presence of plasminogen (0.15 μM) with or without inhibitor (ε- AcA at 100 mM or apro at 2.2 μM). A positive control was included in using plasminogen at 0.15 μM with tPA at 25 nM. OD was measured at 350 nm every 20 minutes for 18 hours at 37°C. Results are represented as the mean value ±SEM (n = 3 independent samples). The percent of clot retention is shown for MVs (A1) and exosomes (B1) from MCF7, MVs (C1) and exosomes (D1) from MCF7-PMA, MVs (E1) and exosomes (F1) from NB4, MVs (G1) and exosomes (H1) from NB4-ATRA and exosomes (I1) from A549. Also, a representative picture of the experiment is shown for MVs (A2) and exosomes (B2) from MCF7, MVs (C2) and exosomes (D2) from MCF7-PMA, MVs (E2) and exosomes (F2) from NB4, MVs (G2) and exosomes (H2) from NB4-ATRA and exosomes (I2) from A549.

Supplemental Figure 5: Enzymatic activity of exosomes and microvesicles from tumor cells
SDS-PAGE gel was formed with fibrinogen (0.8 mg/mL) and α-thrombin (1 U/mL). Then, cell lysate, exosomes and MVs were loaded at 100 μg, 20 μg and 20 μg of protein respectively. Gel was run, and then incubated with “Brij 35” overnight at 37°C. The enzymatic activity was revealed by Coomassie Blue.

The enzymatic activity was determined for cells lysate, exosomes and MVs from MDA-MB-231 (A), MCF7 (B) and A549 (C). A positive control, plasmin was included. The experiment was repeated 3 times with different samples. One representative result was shown for each cell line.
Supplementary Figure 1: Thrombotic activity of exosomes and microvesicles from tumor cells

A1  MVs from MCF7 (fibrinogen)  B1  Exosomes from MCF7 (fibrinogen)  C1  MVs from NB4 (fibrinogen)  D1  Exosomes from NB4 (fibrinogen)  E1  Exosomes from A549 (fibrinogen)

A2  MVs from MCF7 (plasma)  B2  Exosomes from MCF7 (plasma)  C2  MVs from NB4 (plasma)  D2  Exosomes from NB4 (plasma)  E2  Exosomes from A549 (plasma)
**Supplementary Figure 2: Exosomes and microvesicles from different tumors express plasminogen receptors and plasminogen activators**

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<tr>
<th></th>
<th>MDA MB 231</th>
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Supplementary Figure 3: Fibrinolytic activity of exosomes from A549 cancer cells on fibrin-clot

A1

Exosomes from A549

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<th>Condition</th>
<th>Clot Retention (%)</th>
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<td>Pg + exosomes + t-ACA</td>
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<tr>
<td>Pg + exosomes + Apo</td>
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</table>

A2

Buffer, Pg, Pg + tPA, Pg + Exosomes, Pg + Exosomes + t-ACA, Pg + Exosomes + Apo
Supplemental Figure 4: Fibrinolytic activity of exosomes and microvesicles from cancer cells on the plasma-clot

A1 MVs from MCF7

A2 buffer, Pg, Pg + tPA, Pg + MVs, Pg + MVs + ε-AcA, Apo

B1 Exosomes from MCF7

B2 buffer, Pg, Pg + tPA, Pg + exosomes, Pg + exosomes + ε-AcA, Apo

C1 MVs from MCF7-PMI

C2 buffer, Pg, Pg + tPA, Pg + MVs, Pg + MVs + ε-AcA, Apo

D1 Exosomes from MCF7-PMI

D2 buffer, Pg, Pg + tPA, Pg + exosomes, Pg + exosomes + ε-AcA, Apo

E1 MVs from NB4

E2 buffer, Pg, Pg + tPA, Pg + MVs, Pg + MVs + ε-AcA, Apo

F1 Exosomes from NB4

F2 buffer, Pg, Pg + tPA, Pg + exosomes, Pg + exosomes + ε-AcA, Apo

G1 MVs from NB4-ATRA

G2 buffer, Pg, Pg + tPA, Pg + MVs, Pg + MVs + ε-AcA, Apo

H1 Exosomes from NB4-ATRA

H2 buffer, Pg, Pg + tPA, Pg + exosomes, Pg + exosomes + ε-AcA, Apo

I1 Exosomes from A549

I2 buffer, Pg, Pg + tPA, Pg + exosomes, Pg + exosomes + ε-AcA, Apo