Set	Read pairs	Non-duplicate pairs	Pairs mapped (%)
U87 Exo	59,015,762	2,282,205	94%
U87 LO	12,045,233	5,003,737	93%
U87 Cells	133,434,652	29,870,442	97%

Supplementary Table S1. Sizes of read sets in U87 RNA-Seq data and mapping rates.

Target gene	Forward	Reverse	Amplicon bp
AARS	ACAATGAGGCTGGCAAGATCA	ACCCACTCGCTGGCTTTTAA	82
ADRBK1	TGCAGAAGTACCTGGAGGAC	GAAGTCTCGGAAGAGCAGGTA	86
ASL	GGGCCATTGCAGGCAATCC	TGTTGAGAGTGATGGCCCCAAA	81
DAZAP1	GATCTATGACGCCGAGAAGCA	CCACTGATTGTTCGTCCTCGAA	71
E2F1	AGCTCATTGCCAAGAAGTCCAA	TCCTGGGTCAACCCCTCAA	94
HBA1	TCTCCTGCCGACAAGACCAA	GTGGTGGGGAAGGACAGGA	110
HBA2	CCACTGCCTGCTGGTGAC	TACCGAGGCTCCAGCTTAAC	136
HSPA5	CGCTGAGGCTTATTTGGGAA	TTGGCGTTGGGCATCATTAA	79
KLF2	ATCCTGCCGTCCTTCTCCA	CCATGGACAGGATGAAGTCC	136
MMP14	GTAACAGGCAAAGCTGATGCA	AGCCCCAAACTTGTCTGGAA	78
MTRNR2L2	ACCCATTCCACCTTACTACCA	TCTATTGCGCCGGTTTACAA	90
MTRNR2L9	CTAACCGTGCAAAGGTAGCA	GGTCAGTTGCAGTGGTTGAA	106
P4HB	CAACAGTGACGTGTTCTCCAA	CAAAGTTGTTCCGGCCTTCA	86
PHF19	TTCTGCTCCGTGTGTAACCA	ATTATAGAGGGCCAGGTGAACC	87
POMP	TCAGCAAGTGGACCTTTTGAA	CAAGGGGATGACTAGGCAAAA	88
PSAP	ATCCTGGCTGCTCTTGAGAAA	GCTCGTACTCTGCCACAAAC	85
RIN1	AGAAGCTGCTGTCGCCTAA	CTTGAGCACAGAGCAATGCA	68
RRM2	GCAGCAAGCGATGGCATA	GAAACAGCGGGCTTCTGTAA	81
SLC7A5	TTCGGGGTCTGGTGGAAAA	CCTGCATGAGCTTCTGACAC	85
TK1	GGGCCGATGTTCTCAGGAA	CTTGATCACCAGGCACTTGTAC	87
TMEM41B	GATCAGCAAGAATGTCACTCC	TCTCTGGGAACCTTCATATTCAC	130
TPM1	GGTCCTTTCCGACAAGCTGAA	AGTTACTGACCTCTCCGCAAAC	64
TSNARE1	TCAAGGACTTGGCCTCCA	CCTCAAGGCTGGCTTCAATA	69
ZNF789	GCGGCTTGGCGGAGATT	TTCCACGGCCTGGTCTTTTG	83

Supplementary Table S2. Primer Sequences for validated genes. The amplicon length varies between 64 and 136 bp (average 98 bp).

Cancer Category	Histology	Cancer Stage	Tumor Grade	Age diagnosis	ER	PR	HER2
BREAST	Invasive, Lobular (ILC)	IIIA	G2 - Moderately differentiated	49.7	neg	neg	neg
BREAST	Invasive, Lobular (ILC)	IIIB	G2 - Moderately differentiated	46.6	not known	not known	not known
BREAST	Invasive, Ductal (IDC), NOS	IIIA	G3 - Poorly or undifferentiate	43.5	pos	pos	neg
BREAST	Invasive, Ductal (IDC), NOS	IIIA	G2 - Moderately differentiated	39.7	pos	pos	neg
BREAST	Invasive, Ductal (IDC), NOS	IIIA	G3 - Poorly or undifferentiate	34.3	pos	pos	neg
BREAST	Invasive, Ductal (IDC), NOS	III	G2 - Moderately differentiated	50.4	pos	pos	neg
BREAST	Invasive, Ductal (IDC), NOS	III	G2 - Moderately differentiated	91.6	rare pos	neg	equivocal
BREAST	Invasive, Micropapillary	III	G3 - Poorly or undifferentiate	56.3	pos	pos	neg
BREAST	Invasive, Lobular (ILC)	III	G2 - Moderately differentiated	62.2	pos	pos	neg
BREAST	Mixed, Ductal/ Lobular	III	G2 - Moderately differentiated	51.0	pos	pos	neg

Supplementary Table S3. Patient characteristics.

Set	Read pairs	Non-duplicate pairs	Pairs mapped (%)
IDC1	8,975,422	2,261,267	93%
IDC2	10,126,705	412,955	94%
IDC3	30,401,873	324,433	87%
IDC4	21,009,646	905,241	88%
IDC5	34,200,494	449,574	87%
ILC/IDC	5,315,196	1,064,974	94%
ILC1	62,483,531	1,861,778	97%
ILC2	46,243,982	1,949,196	95%
ILC3	25,310,833	1,240,972	89%
IMP	21,324,751	1,009,516	87%
Normal1	19,897,356	938,685	88%
Normal2	26,236,895	505,776	87%
Normal3	27,986,356	535,740	82%
Normal4	21,407,390	326,597	84%
Normal5	28,450,598	786,680	89%

Supplementary Table S4. Sizes of read sets in RNA-Seq of human circulating EVs and mapping rates.