

**Table S1.** Atomic percentage of EVs isolated from cell cultures. Mean±SD.

	Abundance (%)				
	O 1s	N 1s	C 1s	S 2p	P 2p
hpMSCs <sup>EVs</sup>	16.56 ± 3.78	3.57 ± 0.22	78.64 ± 4.14	0.02 ± 0.03	1.19 ± 0.18
NIH-3T3 <sup>EVs</sup>	18.50 ± 0.78	6.70 ± 0.18	74.26 ± 0.88	0	0.53 ± 0.04
B16-F1 <sup>EVs</sup>	18.05 ± 5.77	5.37 ± 0.69	75.67 ± 5.51	0.10 ± 0.12	0.79 ± 0.25
B16-F10 <sup>EVs</sup>	20.18 ± 7.55	4.95 ± 1.18	73.99 ± 7.27	0.07 ± 0.12	0.80 ± 0.30

**Table S2.** Nitrogen chemical environmental analysis of EVs isolated from cell cultures. Mean±SD.

	Abundance (%)			
	Pyridine type	-NH2	R2-NH	R3-N
hpMSCs <sup>EVs</sup>	0.31 ± 0.7	75.14 ± 2.50		24.22 ± 2.75
NIH-3T3 <sup>EVs</sup>	0.71 ± 1.38	89.98 ± 2.41		9.93 ± 1.31
B16-F1 <sup>EVs</sup>	0.46 ± 0.64	89.07 ± 2.76		10.47 ± 2.72
B16-F10 <sup>EVs</sup>	0.43 ± 0.73	83.97 ± 8.04		15.59 ± 8.29

**Table S3.** Percentage atomic composition of EVs isolated from female control donors (n=6) and ovarian-tumour patients of different tumour grades: I (n=8), II (n=1), III (n=2) and IV (n=7). Mean±SD.

	Abundance (%)			
	O 1s	N 1s	C 1s	P 2p
Healthy	16.13 ± 0.68	6.06 ± 1.08	76.61 ± 1.15	1.21 ± 0.22
Grade I	16.17 ± 1.80	6.21 ± 1.04	76.56 ± 1.58	1.07 ± 0.29
Grade II	17.43 ± 0	5.37 ± 0	75.84 ± 0	1.36 ± 0
Grade III	16.82 ± 2.60	7.21 ± 0.86	74.82 ± 2.57	1.16 ± 0.83
Grade IV	18.35 ± 3.88	6.63 ± 1.5	73.84 ± 4.25	1.18 ± 0.52

**Table S4.** Nitrogen composition of EVs isolated from female control donors (n=6) and ovarian-tumour patients of different tumour grades: I (n=8), II (n=1), III (n=2) and IV (n=7). Mean±SD.

	Abundance (%)			
	Pyridine type bonding	-NH2	R2-NH	R3-N
Healthy	14.50 ± 15.31	68.00 ± 17.97	6.17 ± 5.34	10.83 ± 7.36
Grade I	0.71 ± 0.95	85.86 ± 2.61	7.29 ± 3.99	6.14 ± 5.34
Grade II	0.00 ± 0.00	89.00 ± 0.00	5.00 ± 0.00	6.00 ± 0.00
Grade III	0.00 ± 0.00	88.00 ± 2.83	7.50 ± 0.71	4.50 ± 2.12
Grade IV	0.00 ± 0.00	86.50 ± 3.02	7.50 ± 4.23	6.00 ± 3.95

**Table S5.** Atomic composition of EVs isolated from healthy donors (n=10) and pancreatic tumour patients (n=10) at diagnosis. Mean±SD.

	<b>Abundance (%)</b>			
	<b>O 1s</b>	<b>N 1s</b>	<b>C 1s</b>	<b>P 2p</b>
Healthy	15.86 ± 0.77	6.54 ± 1.20	76.53 ± 0.95	1.07 ± 0.27
Pancreatic tumour	16.97 ± 1.89	7.13 ± 1.25	74.80 ± 2.59	1.09 ± 0.32

**Table S6.** Nitrogen composition of EVs isolated from healthy donors (n=10) and pancreatic tumour patients (n=10) at diagnosis. Mean±SD.

	<b>Abundance (%)</b>			
	<b>Pyridine type bounding</b>	<b>-NH2</b>	<b>R2-NH</b>	<b>R3-N</b>
Healthy	9.52 ± 13.11	76.55 ± 17.27	4.11 ± 4.93	9.82 ± 5.88
Pancreatic tumour	3.31 ± 5.91	71.79 ± 17.24	19.16 ± 11.66	5.74 ± 6.89