

**Table S1. Flow cytometry analysis of MSCs**

	<b>CD105</b>	<b>CD90</b>	<b>CD73</b>	<b>CD31</b>	<b>CD34</b>	<b>CD45</b>
HD1	93,13	99,02	98,74	4,75	2,74	2,23
HD2	98,59	99,90	99,92	0,47	0,05	1,21
HD3	97,64	99,02	99,54	0,93	0,12	0,29
HD4	92,37	99,91	99,98	0,72	0,32	1,23
HD5	99,43	99,82	99,91	0,22	0,07	1,17
HD6	99,12	99,78	99,14	2,36	6,10	4,60
HD7	98,64	99,72	99,34	1,88	1,22	2,46
HD8	80,00	80,86	83,58	0,28	0,34	0,26
HD9	97,14	99,95	97,73	0,07	0,21	0,82
HD10	94,58	99,88	99,62	1,33	1,26	3,66
HD11	98,56	99,59	99,89	0,06	0,06	0,03
HD12	96,84	100,00	99,00	0,03	0,66	0,50
HD13	93,70	97,77	99,90	1,13	0,21	3,70
<b>mean</b>	<b>95,36</b>	<b>98,09</b>	<b>98,18</b>	<b>1,09</b>	<b>1,03</b>	<b>1,70</b>
<b>SD</b>	<b>5,21</b>	<b>5,22</b>	<b>4,43</b>	<b>1,32</b>	<b>1,70</b>	<b>1,50</b>

Results of the flow cytometry analysis of MSCs after a first expansion in flasks. HD, Healthy Donor, CD, Cluster of Differentiation; SD, Standard Deviation.

**Table S2. MSCs and MSCs-PTX number and viability**

	<b>N°MSCs (x10<sup>6</sup>)</b>	<b>VIABILITY %</b>
HD1	14	94,7
HD2	3,22	99
HD3	6,58	99,2
HD4	11,9	92,6
HD5	11,55	97,9
HD6	7,77	99
HD7	7,35	97
HD8	4,48	99
HD9	11,83	93,8
HD10	3,64	93,1
HD11	4,62	94,2
HD12	9,10	92,8
HD13	9,03	98
<b>mean</b>	<b>7,60</b>	<b>96,18</b>
<b>SD</b>	<b>2,85</b>	<b>2,67</b>

	<b>N°MSCs-PTX (x10<sup>6</sup>)</b>	<b>VIABILITY %</b>
HD1	8,19	97,3
HD2	14,35	93,90
HD3	11,20	96,50
HD4	13,02	93,00
HD5	5,11	99,90
HD6	2,73	92,20
HD7	4,20	98,20
HD8	2,10	99,00

HD9	5,25	95,30
HD10	2,80	97,40
HD11	3,15	99,10
HD12	8,75	97,00
HD13	8,75	99,00
<b>mean</b>	<b>6,78</b>	<b>96,75</b>
<b>SD</b>	<b>4,29</b>	<b>2,48</b>

MSCs/MSCs-PTX characterization, in terms of number and viability, at the end of the culture period. HD, Healthy Donor, SD, Standard Deviation.

**Table S3. EV and EV-PTX characterization by NTA**

	<b>N° EV</b>	<b>SIZE (nm)</b>
HD1	2,01x10 <sup>10</sup>	190,4
HD2	9,40x10 <sup>9</sup>	211,3
HD3	1,60x10 <sup>10</sup>	210,2
HD4	1,74x10 <sup>10</sup>	189,4
HD5	3,48x10 <sup>9</sup>	187,1
HD6	1,47x10 <sup>9</sup>	186
HD7	4,76x10 <sup>9</sup>	191,1
HD8	3,32x10 <sup>9</sup>	206,2
HD9	3,59x10 <sup>9</sup>	193,7
HD10	1,55x10 <sup>9</sup>	263,4
HD11	1,98x10 <sup>9</sup>	218,7
HD12	5,49x10 <sup>9</sup>	206,8
HD13	2,85x10 <sup>9</sup>	238,8
<b>mean</b>	<b>7,03x10<sup>9</sup></b>	<b>207,16</b>
<b>SD</b>	<b>6,55x10<sup>9</sup></b>	<b>22,75</b>

	<b>N° EV-PTX</b>	<b>SIZE (nm)</b>
HD1	1,18x10 <sup>10</sup>	193,1
HD2	7,70x10 <sup>9</sup>	216,2
HD3	9,60x10 <sup>9</sup>	209,5
HD4	8,29x10 <sup>9</sup>	200,4
HD5	3,91x10 <sup>9</sup>	189,4
HD6	1,38x10 <sup>9</sup>	208,3
HD7	4,40x10 <sup>9</sup>	214,7
HD8	5,84x10 <sup>9</sup>	212,6
HD9	3,80x10 <sup>9</sup>	191,1
HD10	3,51x10 <sup>9</sup>	236,4
HD11	3,68x10 <sup>9</sup>	220,7
HD12	5,41x10 <sup>9</sup>	228
HD13	7,69x10 <sup>9</sup>	248,4
<b>mean</b>	<b>5,92x10<sup>9</sup></b>	<b>212,98</b>
<b>SD</b>	<b>2,92x10<sup>9</sup></b>	<b>17,62</b>

EV/EV-PTX characterization, in terms of number and size, at the end of the isolation procedure. NTA, Nanosight Tracking Analysis; HD, Healthy Donor; nm, nanometer; SD, Standard Deviation.

**Table S4. Impact of pre-processing storage of EV-containing supernatant- NTA analysis**

<b>FRESH SUP</b>	<b>N° EV</b>	<b>SIZE (nm)</b>
HD1	1,37x10 <sup>10</sup>	212,6
HD2	1,00x10 <sup>10</sup>	204,8
HD3	5,68x10 <sup>9</sup>	221,9
<b>mean</b>	<b>9,79x10<sup>9</sup></b>	<b>213,1</b>
<b>SD</b>	<b>4,01x10<sup>9</sup></b>	<b>8,6</b>
<b>SUP-Cryo-DMSO</b>		
HD1	8,40x10 <sup>9</sup>	196,4
HD2	2,50x10 <sup>9</sup>	201,1
HD3	2,60x10 <sup>9</sup>	212,5
<b>mean</b>	<b>4,50x10<sup>9</sup></b>	<b>203,3</b>
<b>SD</b>	<b>3,38x10<sup>9</sup></b>	<b>8,3</b>
<b>SUP-Cryo</b>		
HD1	1,90x10 <sup>9</sup>	195,3
HD2	1,02x10 <sup>10</sup>	177,8
HD3	2,60x10 <sup>9</sup>	190,9
<b>mean</b>	<b>4,90x10<sup>9</sup></b>	<b>188,0</b>
<b>SD</b>	<b>4,60x10<sup>9</sup></b>	<b>9,10</b>

EV samples isolated immediately after supernatant collection (fresh SUP) were compared, in terms of number and size, with those obtained after the storage of the supernatant, supplemented or not supplemented with 1% DMSO (SUP-Cryo-DMSO versus SUP-Cryo), at -80 °C for 1 month. NTA, Nanosight Tracking Analysis; HD, Healthy Donor; nm, nanometer; SD, Standard Deviation.

**Table S5. Characterization of EV from platelet lysate- NTA analysis**

	<b>N° EV</b>	<b>SIZE (nm)</b>
RUN1	1,50x10 <sup>10</sup>	134,2
RUN2	1,46x10 <sup>10</sup>	141,4
RUN3	2,68x10 <sup>10</sup>	134,4
RUN4	2,20x10 <sup>10</sup>	150,10
RUN5	2,00x10 <sup>10</sup>	154,30
RUN6	2,44x10 <sup>10</sup>	153,30
<b>mean</b>	<b>2,05x10<sup>10</sup></b>	<b>144,62</b>
<b>SD</b>	<b>4,95x10<sup>9</sup></b>	<b>9,19</b>

Characterization, in terms of number and size, of the EV isolated from platelet lysate. NTA, Nanosight Tracking Analysis; HD, Healthy Donor, SD, Standard Deviation; nm, nanometer.