

Supplementary File

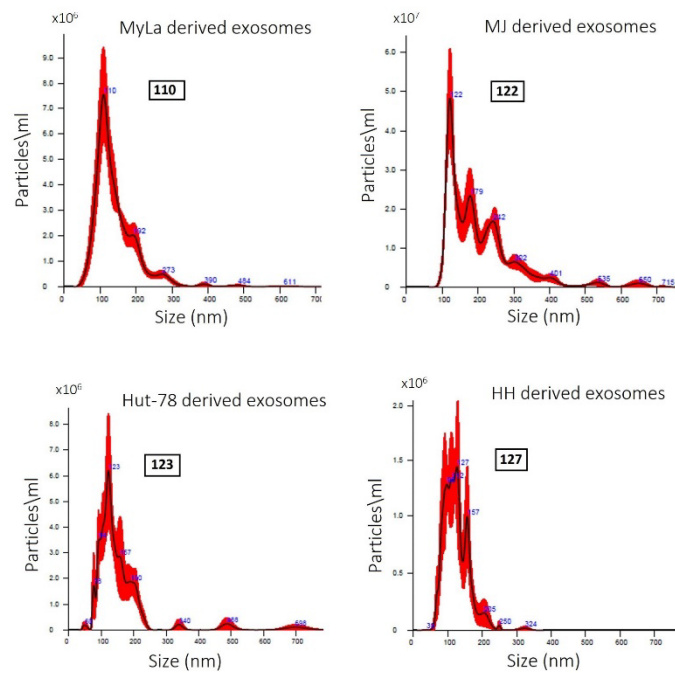


Figure S1. Size distribution and concentration of exosomes derived from CTCL cell lines by Nanoparticle tracking analysis.

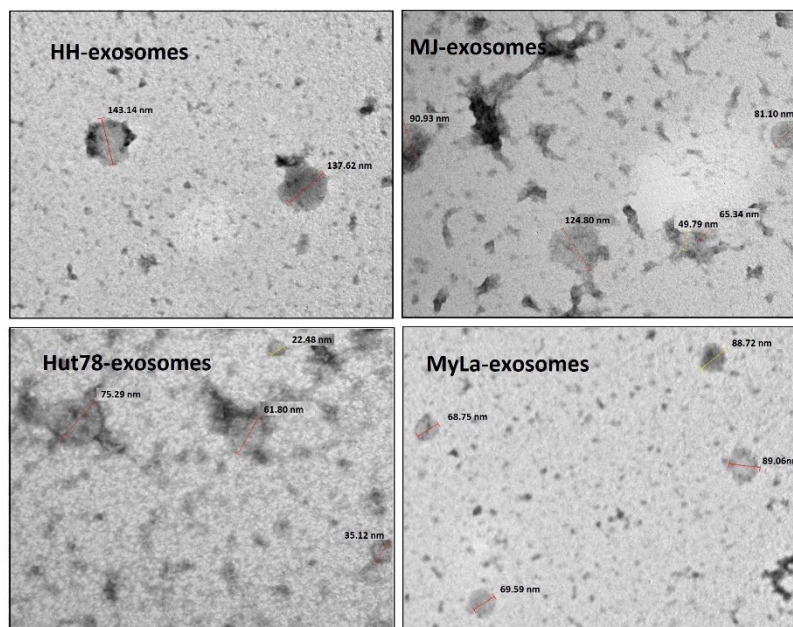


Figure S2. The morphology and structure of exosomes derived from CTCL cell lines by Electron microscopy.

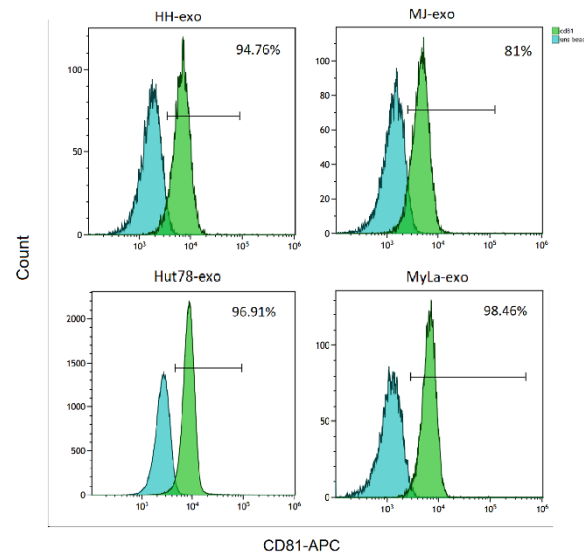


Figure S3. FACS analysis of CD81 (an exosome marker) on conjugated MF exosomes to latex beads, showing rate of CD81-positive particles higher than 80%.

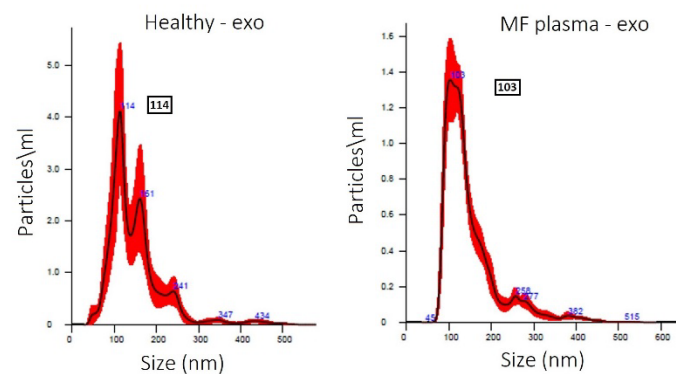


Figure S4. Size distribution and concentration of exosomes isolated from plasma of patients with MF and healthy donors by Nanoparticle tracking analysis.

Table S1. Antibodies panel A for defining immune cell subsets.

Target	Metal	Catalog	clone	Vendor
Anti-Human CD4	174Yb	3174004B	SK3	Fluidigm
Anti-Human CD8	168Er	3168002B	SK1	Fluidigm
Anti-Human CD197/CCR7	167Er	3167009A	G043H7	Fluidigm
Anti-Human CD45RO	165Ho	3165011B	UCHL1	Fluidigm
Anti-Human CD45RA	155Gd	3155011B	HI100	Fluidigm
Anti-Human CD45	89Y	3089003B	HI30	Fluidigm
Anti-Human CD183[CXCR3]-	163Dy	3163004B	G025H7	Fluidigm
Anti-Human CD196/ CCR6	141Pr	3141003A	G034E3	Fluidigm

Anti-Human CD197/CCR7	167Er	3167009A	G043H7	Fluidigm
Anti-Human CD25	169Tm	3169003B	2A3	Fluidigm
Anti-Human CD127/IL-7Ra	143Nd	3143012B	A019D5	Fluidigm
Anti-Human CD19	142Nd	3142001B	H1B19	Fluidigm
Anti-Human CD3	154Sm	3154003B	UCHT1	Fluidigm
Anti-Human CD56	176Yb	3176009B	N901	Fluidigm
Anti-Human CD161	164Dy	3164009B	HP-3G10	Fluidigm
Anti-Human CD123/IL-3R	151Eu	3151001B	6H6	Fluidigm
Anti-Human CD16	148Nd	3148004B	3G8	Fluidigm
Anti-Human HLA-DR	173Yb	3173005B	L243	Fluidigm
Anti-Human CD14	175Lu	3175015B	M5E2	Fluidigm
Anti-Human CD86/B7.2	150Nd	3150020B	IT2.2	Fluidigm
Anti-Human CD163	145Nd	3145010B	GHI/61	Fluidigm
Anti-Human TCRgd	152Sm	3152008B	11F2	Fluidigm
Anti-Human CD185/CXCR5	153Eu	3153020B	RF8B2	Fluidigm
Anti-Human CD66b	162Dy	3162023B	80H3	Fluidigm
Anti-Human CD20	171Yb	3171012B	2H7	Fluidigm
Anti-Human CD38	144Nd	3144014B	HIT2	Fluidigm
Anti-Human CD11c	147Sm	3147008B	Bu15	Fluidigm

Table S2. Antibodies panel B for expression of immune regulators.

Target	metal	Catalog	Clone	vendor
Anti-Human PD-L1	156Gd	3156026B	29E.2A3	Fluidigm
Anti-Human CD279 / PD1	172 Yb	201811-100	NAT105	Abcam
Anti-Human CTLA4	170Er	3170005B	14D3	Fluidigm
Anti-Human CXCR4	Ce 140	271934-100	EPUMBR3	Abcam
Anti-Human CD366/Tim 3	159Tb	3159037B	F38-2E2	Fluidigm
Anti-Human CD134/OX40	158Gd	3158012B	ACT35	Fluidigm
Anti-Human CD278/ICOS	157 Gd	237562-100	EPR22181	Abcam
Anti-Human CD 335/NKp46	166 Er	BLG-331902	9E2	BLG
C Anti-Human D30	146 Nd	213047-100	CD30/412	Abcam
Anti-Human CD223/LAG-3	In 115	227579-100	EPR20261	Abcam
Anti-Human CD47	209Bi	3209004B	CC2C6	Fluidigm

Table S3. Immune cell definition for CyTOF analysis

Immune cell subpopulation	Markers
EM CD4 T cells	CD3+TCRgd-CCR7-CD4+CD45RO+CD45RA-
TE CD4 T cells	CD3+TCRgd-CCR7-CD4+CD45RO-CD45RA+
Th1	CD3+TCRgd-CD4+CD45+CXCR5-CXCR3+CCR6-
Th2	CD3+TCRgd-CD4+CD45+CXCR5-CXCR3-CCR6-
Th17	CD3+TCRgd-CD4+CD45+CXCR5-CXCR3-CCR6+
TCRgd T cells	CD45+CD66b-CD20-CD3+TCRgd+
Naive CD4 T cells	CD3+TCRgd-CCR7+CD4+CD45RO-CD45RA+
Activated CD4 T cells	CD3+TCRgd-CD4+CD38+HLADR+
CM CD4 T cells	CD3+TCRgd-CCR7+CD4+CD45RO+CD45RA-
Tregs	CD3+TCRgd-CD4+CD25+CD127-CCR4+
Activated CD8	CD3+TCRgd-CD8+CD38+HLADR+
CM CD8 T cells	CD3+TCRgd-CCR7+CD8+CD45RO+CD45RA-
Naive CD8 T cells	CD3+TCRgd-CCR7+CD8+CD45RO-CD45RA+
EM CD8	CD3+TCRgd-CCR7+CD8+CD45RO+CD45RA-
TE CD8	CD3+TCRgd-CCR7+CD8+CD45RO-CD45RA+
B Cells	CD45+CD66b-CD14-CD16-CD161-CD19+CD3-
mDCS	CD45+CD66b-CD14-CD20-CD19-CD3-HLADR+CD56-CD16-CD123-CD11c+
pDCS	CD45+CD66b-CD14-CD20-CD19-CD3-HLADR+CD56-CD16-CD123+CD11c-
NK CD16+	CD45+CD66b-CD14-CD20-CD19-CD3-CD56+CD161+CD123-CD16+
NK CD16-	CD45+CD66b-CD14-CD20-CD19-CD3-CD56+CD161+CD123-CD16-
M1 (CD86+)	CD45+CD66b-CD14-CD20-CD19-CD3-CD14+CD16- CD86+
M2(CD163+)	CD45+CD66b-CD14-CD20-CD19-CD3-CD14+CD16-CD163+

Table S4. The expression of immune regulator proteins among nPBMCs treated with MyLa exosomes compared to nPBMCs without exosomes.

Protein	Cell subset	RQ	P-value
PDL-1	EM CD4	1.825	0.027
	Th2	3.018	0.0213
	Th17	1.839	0.0314
	NK cells	3.304	0.0267
CTLA-4	Th2	17.608	0.0036
	Naïve CD8	2.085	0.0076
	NK cells	2.375	0.0002
	M1	1.885	0.0357
ICOS	Th2	4.244	0.0227
	Naïve CD8	2.143	0.0353
	TCRgd	3.159	0.025
	DCs	7.163	0.0341
	M1	3.259	0.0008
	T regs	3.083	0.019
OX40	Th17	2.679	0.0001
	Naïve CD4	3.186	0.028
	Naïve CD8	4.507	0.008
	TE CD8	5.901	0.0279
	B cells	1.948	0.0247
	DCs	4.415	0.0007
CXCR4	CM CD4	2.080	0.0042
	Th1	1.888	0.0003
	Naïve CD4	2.193	0.0209
	Naïve CD8	1.752	0.0029
	TE CD8	1.708	0.0247
	EM CD8	2.276	0.0033
CD30	Th2	3.392	0.0125
	Th17	2.892	0.0102
	Naïve CD8	4.064	0.0044
	TE CD8	2.143	0.0016
	B cells	3.515	0.002
	DCs	3.059	0.0031