

**Supplementary Table 1: Panels of antibodies used for flow cytometry**

<b>Panel</b>	<b>Specificity</b>	<b>Fluorochrome</b>	<b>Ab clone</b>	<b>Vendor</b>
<b>Monocytic cells and MDSCs (panel 1)</b>	CD3	PerCP	SK7	BD
	CD4	PerCP	SK3	BD
	CD8	PerCP	SK1	BD
	CD11b	APC-Cy7	ICRF44	BD
	CD14	PE-Cy7	M5E2	BioLegend
	CD15	FITC	HI98	BD
	CD16	PB	3G8	BioLegend
	CD56	A700	B159	BD
	CD33	PE	HIM3-4	eBioscience
	CD124	APC	25463	R&D systems
	HLA-DR	PerCP-Cy5.5	G46-6	BD
<b>T cells and Tregs (panel 2)</b>	CD3	PO	UCHT1	Life Technologies
	CD4	PerCP	SK3	BD
	CD8	APC-H7	SK1	BD
	CD25	PE	M-A251	BD
	CD45RA	BV421	HI100	BioLegend
	CD103	FITC	Ber-ACT8	BD
	FoxP3	Alexa647	259DC7	BD

MDSCs: myeloid-derived suppressor cells; Tregs: regulatory T cells

**Supplementary Table 2: Associations between baseline factors and OS**

Factor	Categories	N (%)	% dead	Overall survival according to Kaplan-Meier		
				Median survival (months)	1-year OS rate (95% CI)	p-value
Total cohort		15 (100)	80.0	7.6	33.3 (9.5;57.2)	n.a.
LDH	Normal	7 (46.7)	71.4	13.2	57.1 (20.5; 93.8)	0.191
	Elevated	8 (53.3)	87.5	4.1	12.5 (0.0;35.4)	
Visceral involvement of metastasis	Soft tissue/lung	7 (46.7)	71.4	13.2	57.1 (20.5;93.8)	0.088
	Other	8 (53.3)	87.5	4.1	12.5 (0;35.4)	
Relative lymphocyte counts (RLC)	<10.5%	1 (6.7)	100	3.0	0.0	0.079
	≥10.5%	14 (93.3)	78.6	7.6	35.7 (10.6;60.8)	
Absolute eosinophil counts (AEC)	<50 counts/μL	3 (20.0)	100	2.5	0.0	0.009
	≥50 counts/μL	12 (80.0)	75.0	8.3	41.7 (13.8;69.6)	
Absolute monocyte counts (AMC)	<650 counts/μL	11 (73.3)	72.7	8.3	45.5 (16.1;74.9)	0.185
	≥650 counts/ μL	4 (26.7)	100	6.2	0.0	
Lin <sup>-</sup> CD14 <sup>+</sup> HLA-DR <sup>-/low</sup> MDSCs	<5.1%	3 (21.4)	66.7	30.0	66.7 (13.4;100)	0.049
	≥5.1%	4 (28.6)	50.0	9.9	50.0 (1.0; 99.0)	
	≥9.5%	7 (50.0)	100	3.3	14.3 (0.0;40.2)	
CD4 <sup>+</sup> CD25 <sup>+</sup> FoxP3 <sup>+</sup> Tregs	<1.5%	0 (0)	0.0	n.a.	n.a.	n.a.
	≥1.5%	11 (100)	81.1	6.2	27.3 (1.0; 53.6)	
Combination model considering the following favorable baseline factors: normal LDH, RLC ≥10.5%, AEC ≥50 counts/μL and AMC <650 counts/μL. <sup>#</sup>	4 favorable factors	5 (33.3)	60.0	30.0	80.0 (44.9; 100)	0.035
	<4 favorable factors	10 (66.7)	90.0	4.1	10.0 (0; 28.6)	

LDH: lactate dehydrogenase; MDSCs: myeloid-derived suppressor cells; OS: overall survival; Tregs: regulatory T cells; n.a.: not applicable; # Martens *et al.* Clin Cancer Res (2016), 22, 2908-18.

**Supplementary Table 3: Associations between early changes in immune cells and outcome**

Factor	Categories	N (%)	% dead	Overall survival according to Kaplan-Meier		
				Median Survival (months)	1-year OS rate (95% CI)	p-value
Absolute lymphocyte counts	Increase	13 (86.7)	76.9	7.7	38.5 (12.0; 64.9)	0.152
	Decrease	2 (13.3)	100	1.2	0.0	
Relative lymphocyte counts	Increase	12 (80.0)	75.0	8.3	41.7 (13.8; 69.5)	0.048
	Decrease	3 (20.0)	100	3.3	0.0	
Absolute eosinophil counts	Increase	15 (100)	80	7.6	33.3 (9.5; 57.2)	n.a.
	Decrease	0 (0.0)	n.a.	n.a.	n.a.	
Absolute monocyte counts	Increase	5 (33.3)	100	6.2	20.0 (0.0; 55.1)	0.321
	Decrease	10 (66.7)	70.0	8.3	40.0 (9.6; 70.4)	
Lin <sup>-</sup> CD14 <sup>+</sup> HLA-DR <sup>-/low</sup> MDSCs	Increase	3 (37.5)	100	7.6	33.3 (0.0; 86.7)	0.977
	Decrease	5 (62.5)	80	6.2	40.0 (0.0; 82.9)	
CD4 <sup>+</sup> CD25 <sup>+</sup> FoxP3 <sup>+</sup> Tregs	Increase	7 (100)	85.7	6.2	28.6 (0.0; 62.0)	n.a.
	Decrease	0 (0.0)	n.a.	n.a.	n.a.	

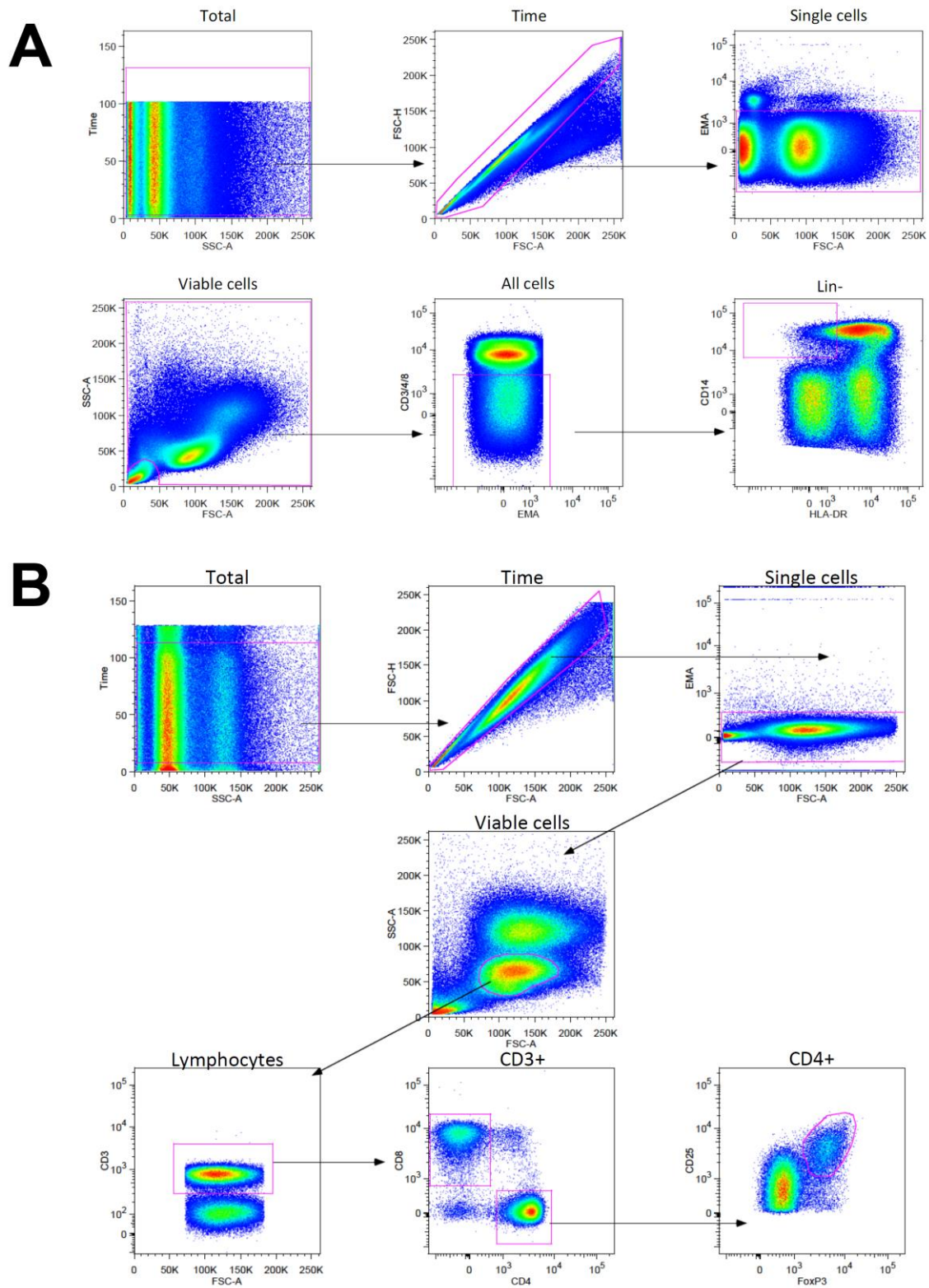
MDSCs: myeloid-derived suppressor cells; Tregs: regulatory T cells; n.a.: not applicable

**Supplementary Table 4: Associations between late changes in immune cells and outcome**

Factor	Categories	N (%)	% dead	Overall survival according to Kaplan-Meier		
				Median Survival (months)	1-year OS rate (95% CI)	p-value
Absolute lymphocyte counts	Increase	5 (50.0)	60.0	30.0	80.0 (44.9; 100)	0.105
	Decrease	5 (50.0)	80.0	6.2	20.0 (0.0; 55.1)	
Relative lymphocyte counts	Increase	4 (40.0)	50.0	13.2	75.0 (32.6; 100)	0.196
	Decrease	6 (60.0)	83.3	6.2	33.3 (0.0; 71.1)	
Absolute eosinophil counts	Increase	7 (70.0)	71.4	13.2	57.1 (20.5; 93.8)	0.378
	Decrease	3 (30.0)	66.7	4.1	33.3 (0.0; 86.6)	
Absolute monocyte counts	Increase	6 (60.0)	66.7	9.9	50.0 (10.0; 90.0)	0.961
	Decrease	4 (40.0)	75.0	8.3	50.0 (1.0; 99.0)	
Lin <sup>-</sup> CD14 <sup>+</sup> HLA-DR <sup>-/low</sup> MDSCs	Increase	3 (60.0)	100	n.a.	33.3 (0.0; 86.7)	0.063
	Decrease	2 (40.0)	0	n.a.	n.a.	
CD4 <sup>+</sup> CD25 <sup>+</sup> FoxP3 <sup>+</sup> Tregs	Increase	1 (100)	100	4.1	n.a.	n.a.
	Decrease	0 (0.0)	n.a.	n.a.	n.a.	

MDSCs: myeloid-derived suppressor cells; Tregs: regulatory T cells; n.a.: not applicable

# Supplementary Figure 1: Gating strategy for flow cytometric data



**Supplementary Figure 1: Gating strategy for flow cytometric data.** Progressive gating strategies were used to identify previously-described populations of Lin<sup>-</sup> CD14<sup>+</sup>HLA-DR<sup>-/low</sup> MDSCs (A) and CD4<sup>+</sup>CD25<sup>+</sup>FoxP3<sup>+</sup> Tregs (B). For both populations Time vs. SSC-A was used to select total cells, followed by FSC-H and FSC-A for single cells. Viable cells were defined as EMA<sup>-</sup>. For MDSC identification, lineage (CD3/4/8)-negative cells within total cells were selected and further subdivided into the CD14<sup>+</sup> and HLA-DR<sup>-/low</sup> populations (A). For Tregs, the lymphocyte population was used and CD3<sup>+</sup> cells selected. Among cells expressing CD4<sup>+</sup>, Tregs were defined as CD25<sup>+</sup>FoxP3<sup>+</sup> (B).