Prognostic impact of soluble CD163 in patients with diffuse large B-cell lymphoma

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Supplemental material

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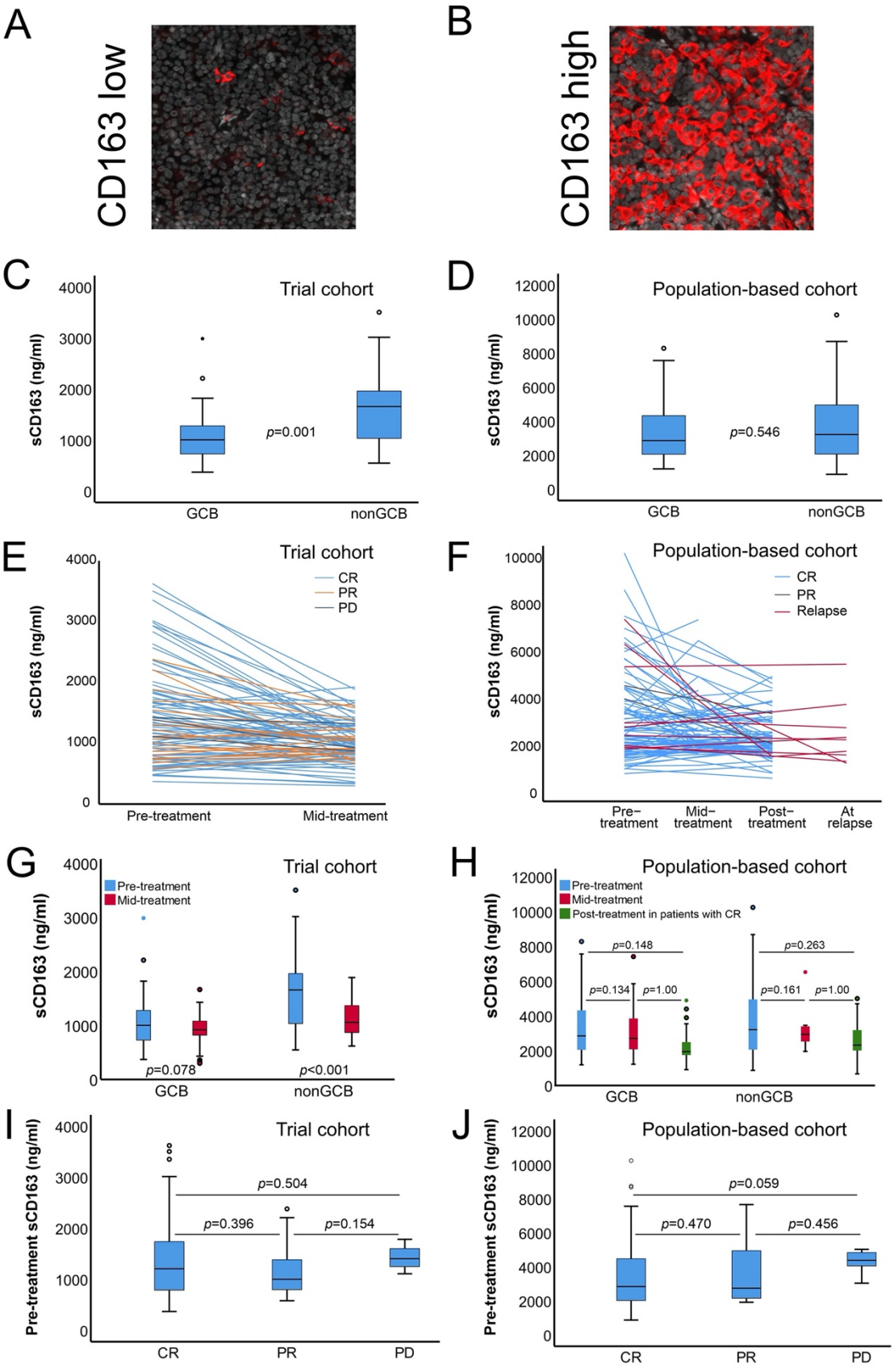
A
CD163 low
B
CD163 high
C
Trial cohort
sCD163 (ng/ml)
p=0.001
GCB
nonGCB
D
Population-based cohort
sCD163 (ng/ml)
p=0.546
GCB
nonGCB
E
Trial cohort
CR
PR
PD
sCD163 (ng/ml)
Pre-treatment
Mid-treatment
F
Population-based cohort
CR
PR
Relapse
sCD163 (ng/ml)
Pre-treatment
Mid-treatment
Post-treatment
At relapse
G
Trial cohort
Pre-treatment
Mid-treatment
sCD163 (ng/ml)
p=0.078
p<0.001
GCB
nonGCB
H
Population-based cohort
Pre-treatment
Mid-treatment
Post-treatment in patients with CR
sCD163 (ng/ml)
p=0.148
p=0.134
p=1.00
p=0.263
p=0.161
p=1.00
GCB
nonGCB
I
Trial cohort
Pre-treatment sCD163 (ng/ml)
p=0.504
p=0.396
p=0.154
CR
PR
PD
J
Population-based cohort
Pre-treatment sCD163 (ng/ml)
p=0.059
p=0.470
p=0.456
CR
PR
PD

Supplementary Figure 1. CD163 immunohistochemistry and the effect of treatment on sCD163 levels. Representative images of immunohistochemical stainings of diffuse large B-cell lymphomas with low (A) and high (B) CD163+ cell counts. Pre-treatment sCD163 levels between the molecular subgroups (GCB vs non-GCB) in the trial cohort (C) and the population-based cohort (D). The effect of treatment on sCD163 levels for each patient separately and according to their response in the trial cohort (E) and the population-based cohort (F). Comparison of pre- and mid-treatment sCD163 levels according to molecular subgroups in the trial cohort (G), and comparison of pre-, mid-, and post-treatment in CR sCD163 levels according to subgroups in the population-based cohort (H). Comparison of pre-treatment sCD163 levels in patients with complete response (CR), partial response (PR) or progressive disease (PD) at the end of treatment in the trial cohort (I) and the population-based cohort (J). Due to graphical reasons the two extreme outliers in the population-based cohort with pre-treatment sCD163 level over 11 000 ng/ml are not visualized in the figures, but are included in the statistical analyses.

Supplementary Table 1. Cox regression analysis in the trial cohort

		PFS			**OS**	
Factor	**HR**	**95% CI**	***p*-value**	**HR**	**95% CI**	***p*-value**
sCD163, low vs. high	**4.40**	**1.09-17.83**	**0.038**	5.08	0.98-26.39	0.053
Age, < vs. ≥ 60 years	1.05	0.31-3.64	0.935	0.52	0.11-2.41	0.403
Stage, I-IV	1.97	0.49-7.87	0.336	1.43	0.35-5.89	0.623
ECOG PS, 0-4	1.50	0.73-3.07	0.267	2.10	0.89-4.97	0.093
LDH, ≤ ULN vs. > ULN	1.64	0.19-14.14	0.652	1.85	0.22-15.96	0.575
Gender, male vs. female	0.81	0.24-2.72	0.735	1.43	0.38-5.37	0.596
Subtype, GCB vs. non-GCB	0.83	0.26-2.70	0.762	1.02	0.26-4.03	0.973

Cox regression analysis regarding the prognostic implication on progression-free survival and overall survival according to pre-treatment sCD163 levels in the trial cohort. PFS, progression free survival; OS, overall survival; HR, hazard ratio; CI, confidence interval; sCD163, soluble CD163; ECOG PS, Eastern Cooperative Oncology Group performance status; LDH, lactate dehydrogenase; ULN, upper limit of normal; GCB, Germinal center B-cell like; non-GCB, non-germinal center B-cell like. Significant values are indicated in bold.

Supplementary Table 2. Cox regression analysis in the population-based cohort

	PFS			OS		
Factor	**HR**	**95% CI**	***p*-value**	**HR**	**95% CI**	***p*-value**
sCD163 low		*reference*			*reference*	
sCD163 high*	**2.16**	**1.05-4.48**	**0.037**	2.21	0.99-4.94	0.052
Age < 60 years		*reference*			*reference*	
Age > 60 years	**3.20**	**1.31-7.77**	**0.010**	**5.81**	**1.74-19.36**	**0.004**
Stage I		*reference*			*reference*	
Stage II	0.58	0.18-1.89	0.368	0.50	0.13-1.89	0.309
Stage III	0.98	0.39-2.47	0.971	1.10	0.41-2.93	0.852
Stage IV	0.61	0.25-1.50	0.282	0.54	0.20-1.47	0.227
ECOG PS 0-1		*reference*			*reference*	
ECOG PS 2-3	**3.86**	**1.49-10.02**	**0.006**	**5.57**	**2.01-15.40**	**0.001**
LDH ≤ ULN		*reference*			*reference*	
LDH > ULN	1.86	0.95-3.64	0.072	**2.12**	**1.00-4.48**	**0.049**
Male		*reference*			*reference*	
Female	**0.38**	**0.19-0.75**	**0.006**	**0.42**	**0.20-0.90**	**0.025**

Multivariable Cox regression analysis regarding the prognostic implication on progression-free survival and overall survival according to pre-treatment sCD163 levels in the population-based cohort. PFS, progression-free survival; OS, overall survival; HR, hazard ratio; CI, confidence interval; sCD163, soluble CD163; ECOG PS, Eastern Cooperative Oncology Group performance status; LDH, lactate dehydrogenase; ULN, upper limit of normal.

*sCD163 results are adjusted for all variables included in the table (age, stage, ECOG PS, LDH and gender). Subtype was left out of the model due to missing values in 37 individuals (30%) of the cohort. Significant values are indicated in bold.