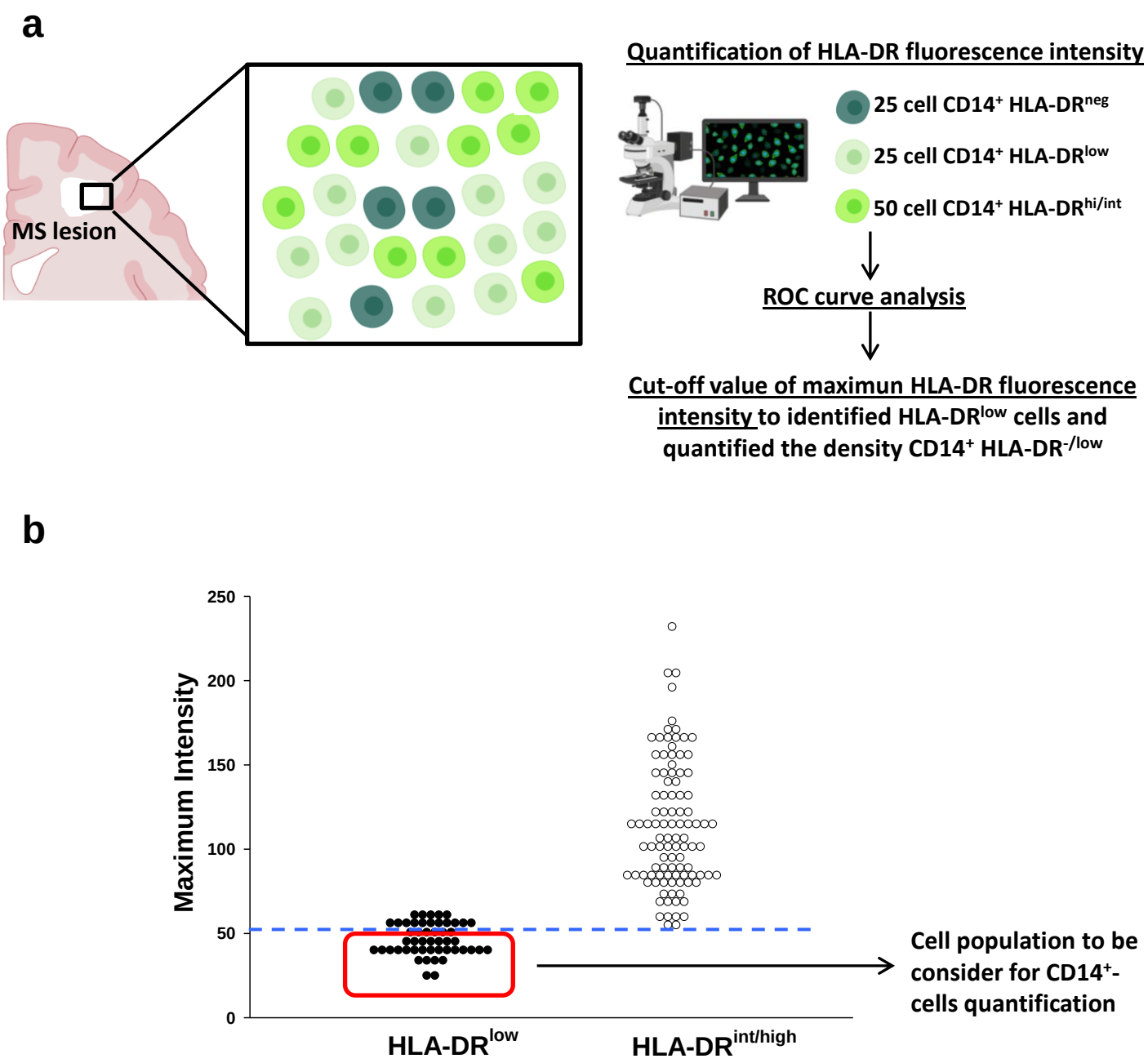
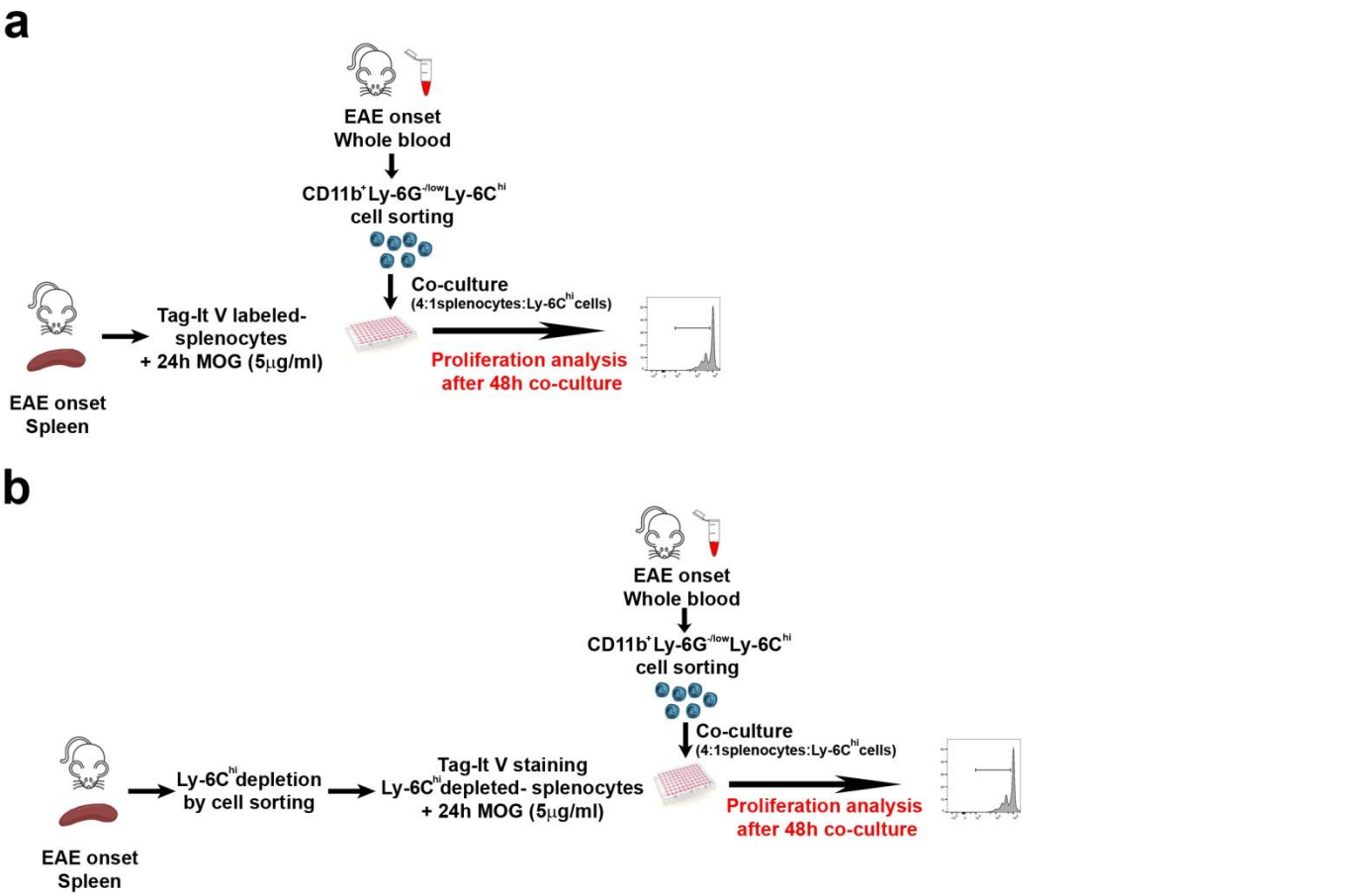
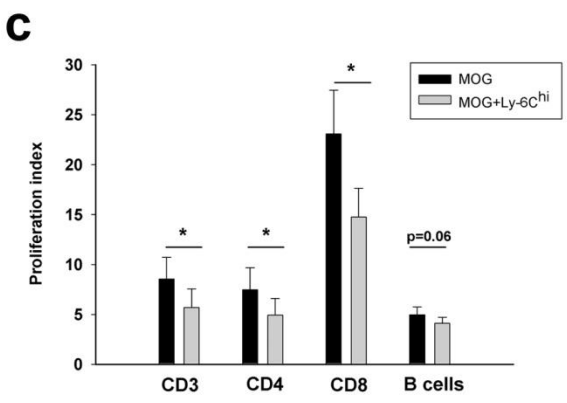
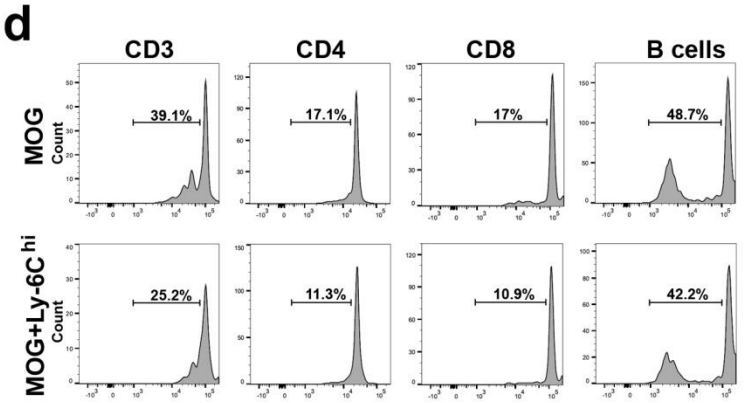


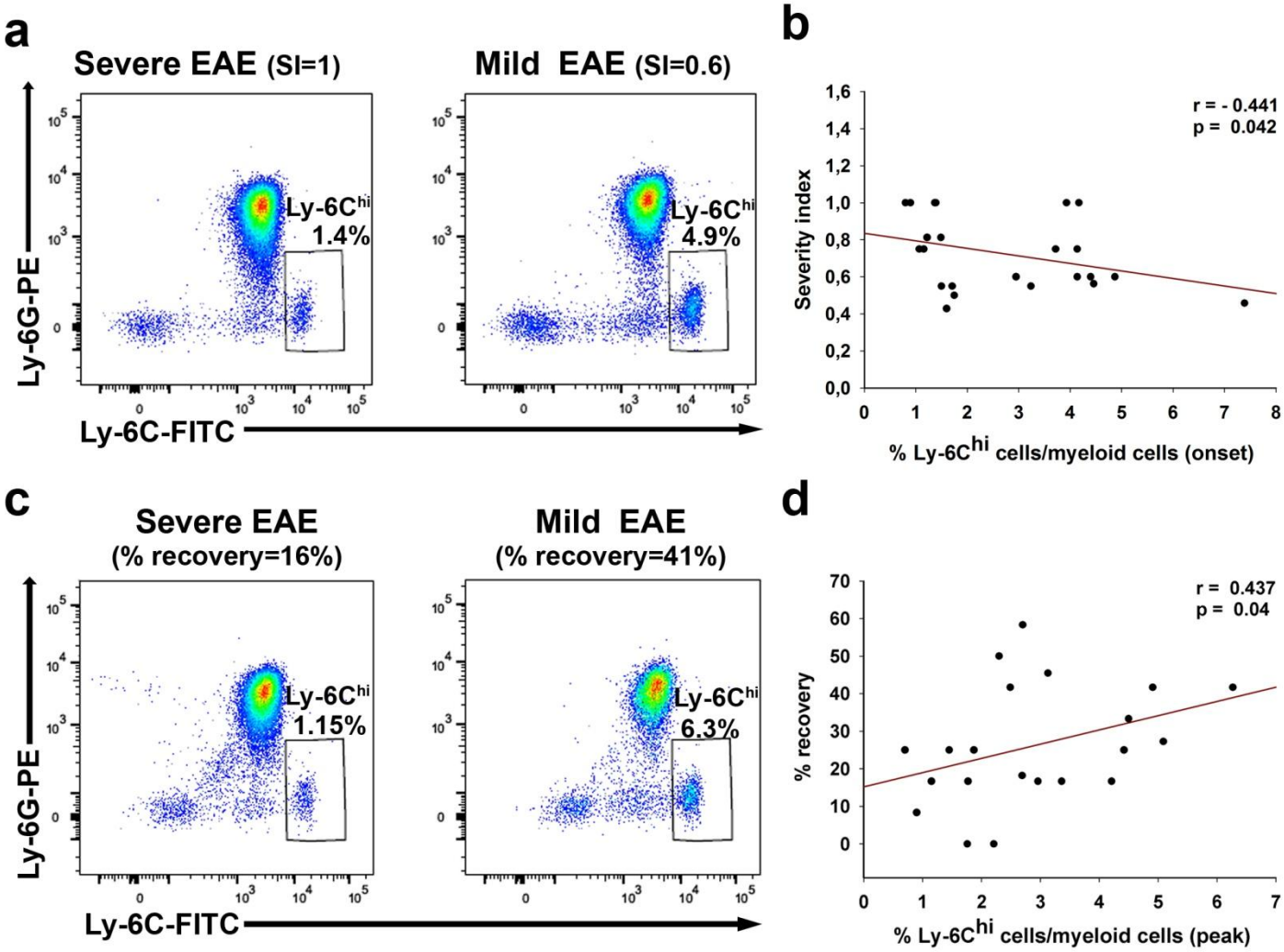
Suppl. Figure 1


a
EAE onset
Whole blood
CD11b+Ly-6G-/lowLy-6Chi
cell sorting
Co-culture
(4:1splenocytes:Ly-6Chicells)
Tag-It V labeled-
splenocytes
+ 24h MOG (5μg/ml)
Proliferation analysis
after 48h co-culture
EAE onset
Spleen
b
EAE onset
Whole blood
CD11b+Ly-6G-/lowLy-6Chi
cell sorting
Co-culture
(4:1splenocytes:Ly-6Chicells)
Ly-6Chidepletion
by cell sorting
Tag-It V staining
Ly-6Chidepleted- splenocytes
+ 24h MOG (5μg/ml)
Proliferation analysis
after 48h co-culture
EAE onset
Spleen

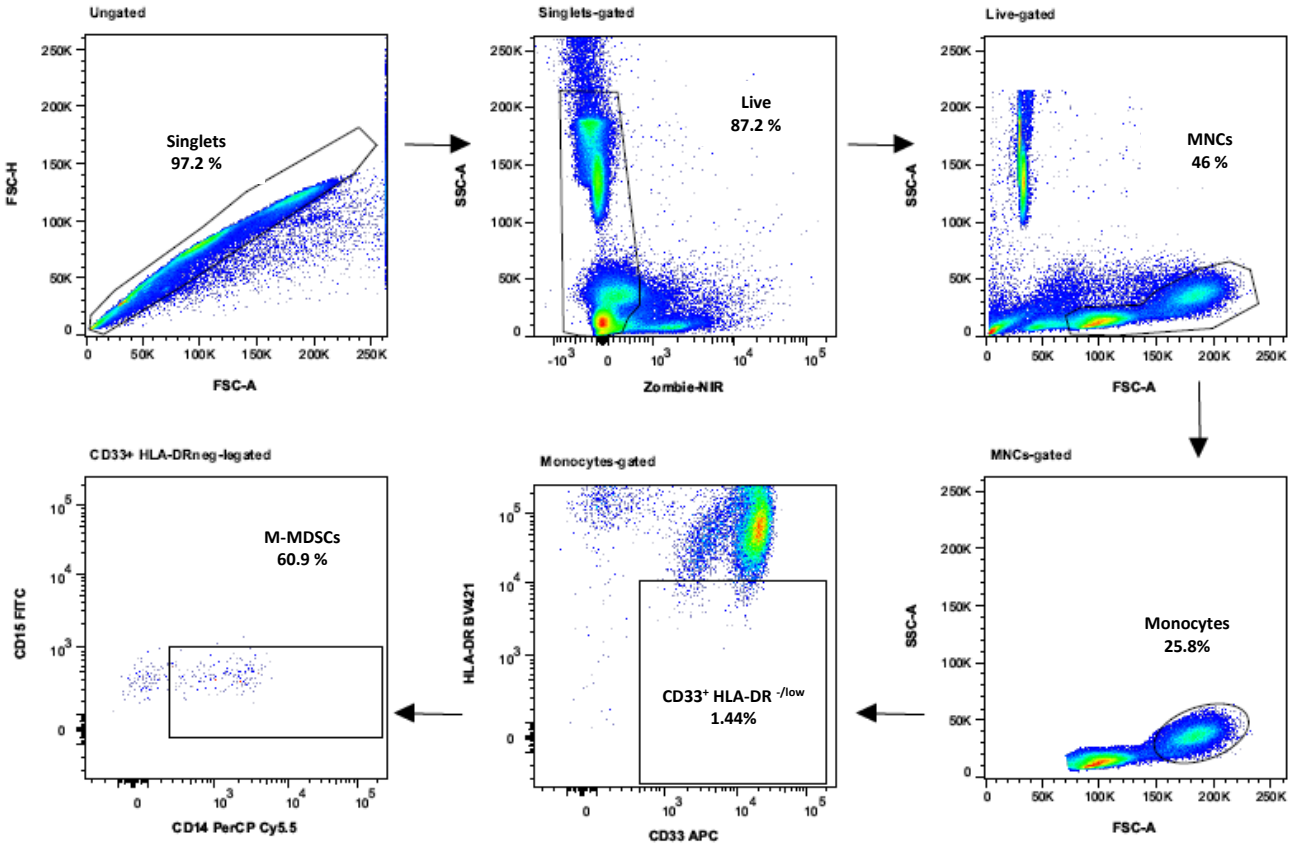

c
Proliferation index
30
25
20
15
10
5
0
MOG
MOG+Ly-6Chi
*
*
*
p=0.06
CD3
CD4
CD8
B cells


d
CD3
CD4
CD8
B cells
MOG
MOG+Ly-6Chi
Count
39.1%
17.1%
17%
48.7%
25.2%
11.3%
10.9%
42.2%

Suppl. Fig. 2


a
Severe EAE (SI=1)
Mild EAE (SI=0.6)
Ly-6C^hi 1.4%
Ly-6C^hi 4.9%
Ly-6G-PE
Ly-6C-FITC
b
r = - 0.441
p = 0.042
Severity index
% Ly-6C^hi cells/myeloid cells (onset)
c
Severe EAE
(% recovery=16%)
Mild EAE
(% recovery=41%)
Ly-6C^hi 1.15%
Ly-6C^hi 6.3%
Ly-6G-PE
Ly-6C-FITC
d
r = 0.437
p = 0.04
% recovery
% Ly-6C^hi cells/myeloid cells (peak)

Suppl. Fig. 3


Ungated
Singlets
97.2 %
FSC-H
FSC-A
Singlets-gated
Live
87.2 %
SSC-A
Zombie-NIR
Live-gated
MNCs
46 %
SSC-A
FSC-A
MNCs-gated
Monocytes
25.8%
SSC-A
FSC-A
Monocytes-gated
CD33+ HLA-DR -/low
1.44%
HLA-DR BV421
CD33 APC
CD33+ HLA-DRneg-legated
M-MDSCs
60.9 %
CD15 FITC
CD14 PerCP Cy5.5

Suppl. Fig. 4

Suppl. Table 1. Demographic table of the MS patients enrolled for the PMBC follow up study

Epidemiological data	All MS patients n = 47	MS ≤30 days n = 30	MS >30 days n = 17	HC n = 26
Age[a]	36.86 (9.03)	35.13 (9.44)	39.11 (8.12)	34.77 (10.28)
Male/female (%female)	15/32 (68.09)	10/20 (66.66)	5/12 (70.59)	12/14 (53.84)
EDSS baseline[b]	3 (2-4)	3 (3-4)	1.75 (1-2)	NA
EDSS 12m[b]	1 (0-2)	0.5 (0-1)	1 (0-2)	NA
Gd+ lesions				

HC: Healthy controls. [a] = mean ± SD. [b] = median ± interquartile range. NA: Not applicable.

Suppl.Table 2 Clinical and demographic data of MS followed up patients

Patient ID	Age	Sex	Time since relapse (days)	Treatment during follow-up	EDSS baseline	EDSS 12 months	MDSCs/MNCs baseline	MDSCs/MNCs 12 months
I	44	F	10	---	2	0	2.67	1.62
II	23	M	8	R	2	0	2.27	0.92
III	51	F	22	DF	4	1	0.52	0.87
IV	24	F	6	Cpx	3	0	2.00	3.47
V	30	M	5	Cc/DF	3	0	0.82	1.69
VI	50	F	21	Cc/DF	3.5	3	1.41	4.05
VII	32	F	33	Cc/Hf	4	0	2.32	3.14
VIII	42	F	10	Cc/Hf/Cpx	5	4	0.7	0.28
IX	40	F	32	Cc/DF	4	3	0.07	7.34
X	44	F	19	Cc/Cdb	4	0	0.72	0.89
XI	30	F	12	Cc/DF	4	1	0.36	0.88
XII	42	M	21	Cc	3	2	0.74	2.79
XIII	39	F	6	Hf	4	1	1.38	1.48
XIV	23	M	11	Cc/DF	4	0	0.15	1.11
XV	57	F	16	Cc	3	0	0.76	1.59
XVI	37	M	17	Df	3	0	1.41	7.71
XVII	29	M	13	Cc/DF/Hf	3	0	2.46	0.31
XVIII	37	M	14	Cc/DF	3	1	0.06	2.54
XIX	32	M	16	Cc/DF	3	0	1.37	5.26
XX	30	F	30	Cc/PG	3	1	1.11	1.44
XXI	36	F	12	Cc/DF	2	0	1.85	6.53
XXII	16	F	5	Ntz	3	2	0.30	1.09
XXIII	24	M	9	DF	2	0	3.39	0.95
XXIV	36	F	9	Ntz	4	1	3.44	6.16
XXV	39	F	8	If	5	1	1.7	1.27
XXVI	35	F	6	Atz	1	0	3.7	8.22
XXVII	43	F	7	---	2	1	3.82	2.30
XXVIII	35	F	14	Tf	5	1.5	0.14	4.73
XXIX	21	M	9	Tf	3	0	0.67	0.71
XXX	34	F	6	Cc/DF	3	3.5	1.02	0.97

Abbreviations: Atz: Alemtuzumab Cc: corticosteroids; Cdb: Cladribina; Cpx: Copaxone; DF: Dimethyl Fumarate; Hf: Hidroferol; If: Interferon; R: Rebif 44; Ntz: Natalizumab; PG: Plegridy; Tf: Teriflunomide.