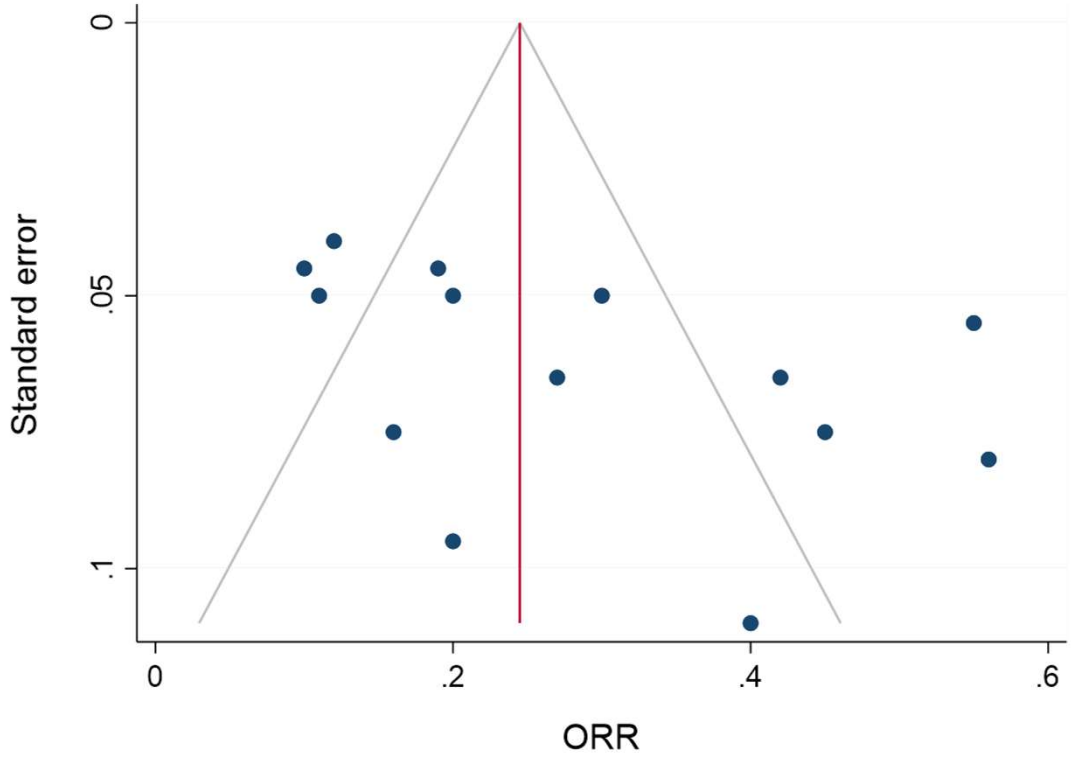
Supplementary material S1

	Phase	Lymphodeplection	IL2 dosage	Tumor Antigen	Restriction	Cell product	TCR production	Cell delivery
Chodon T et al. 2014 [12]	II	CF 60 + FLU 25	HD	MART1	HLA A*0201	Peripheral T cells	Retroviral transduction	intravenous
Dréno B et al. 2021 [13]	I/II	None	LD_a	MART1/MELOE	HLA A*0201	Peripheral T cells	Cocultured with Ag and FACS sorted	intravenous
Duval L et al. 2015 [18]	I	None	None	MART1	HLA A*0201	T cell line Ccure 709	Retroviral transduction	intratumoral
Fontana R et al. 2009 [19]	I	None	None	MAGE-A3	HLA A*0201	Peripheral T cells	Retroviral transduction	intravenous
Johnson LA et al. 2009/1 [20]	II	CF 60 + FLU 25	HD	Cohort 1: MART1 Cohort 2: gp100	HLA A*0201	Peripheral T cells	Retroviral transduction	intravenous
Khammari A et al. 2009 [21]	II	None	LD_b	MART1	HLA A*0201	Peripheral T cells	Cocultured with Ag	intravenous
Lu YC et al. 2017 [22]	Ib	CF 60 + FLU 25	HD	MAGE-A3	HLA DP-B1*0401	Peripheral T cells/CD4+ fraction	Retroviral transduction	intravenous
Mackensen A et al. 2006 [23]	I	None	LD_c	MART1	HLA A*0201	Peripheral T cells/CD8+ fraction	Cocultured with Ag-pulsed DC	intravenous
Mitchell MS et al. 2002 [24]	I	None	None	Tyrosinase	HLA A*0201	Peripheral T cells/CD8+ fraction	Cocultured with mononuclear as APCs	intravenous
Morgan RA et al. 2006 [25]	I	CF 60 + FLU 25	HD	MART1	HLA A*0201	Peripheral T cells/CD8+ fraction	Retroviral transduction	intravenous
Morgan 2013 RA et al. 2013 [14]	II	CF 60 + FLU 25	HD	MAGE-A3	HLA A*0201	Peripheral T cells/CD8+ fraction	Retroviral transduction	intravenous
Robbins PF et al. 2011 [16]	I	CF 60 + FLU 25	HD	NYESO	HLA A*0201	Peripheral T cells/CD3+ fraction	Retroviral transduction	intravenous
Robbins PF et al. 2015 [15]	II	CF 60 + FLU 25	HD	NYESO	HLA A*0201	Peripheral T cells/CD3+ fraction	Retroviral transduction	intravenous
Yee C et al. 2002/1 [17]	I	None	LD^d	Cohort 1: MART1 Cohort 2: gp100	HLA A*0201	Peripheral T cells/CD8+ fraction	Cocultured with immunogenic epitopes	intravenous

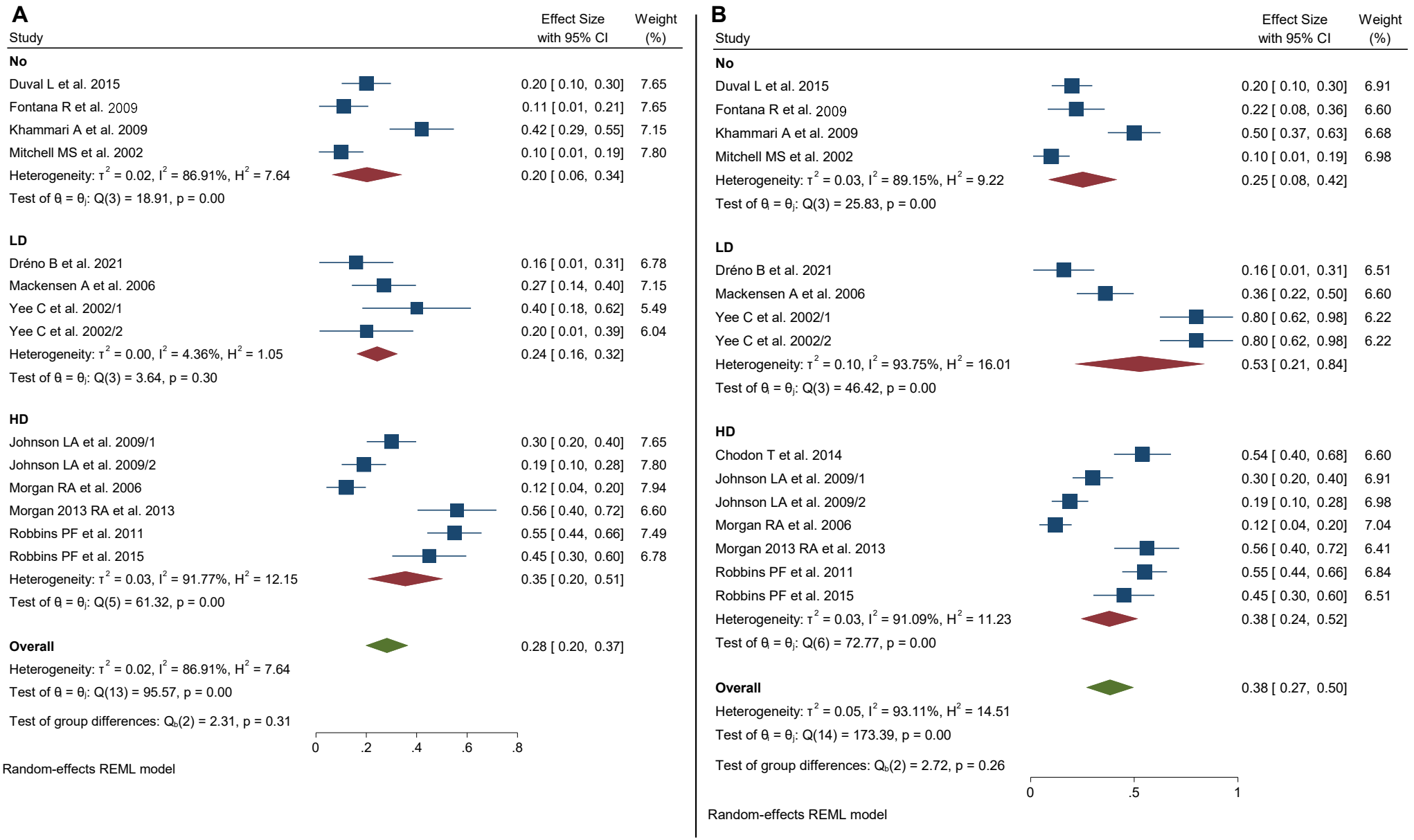
Lymphodeplection: CF 60 + FLU 25 [Cyclophosphamide 60 mg/kg for 2 days followed bu Fludarabine 25 mg/m2 for 5 days]; **IL2 dosage**: HD [720.000 IU/KG q8h to tolerance]; LD [any IL2 dose below that for HD]: a) IL2 s.c. delivered at 6MU from D1-5; b) IL2 s.c. delivered 9MUx3 D1-5 and D8-12 together with s.c. IFN at 9MUx3 during 4 weeks ; c) IL2 s.c. delivered 3MU for 6 days; d) IL2 s.c. delivered at increasing dosage 0,25/0,5/1MU/m2 q12h for 14 days ; **Ag:** Antigen; **DC:** Dendritic Cell; **APC:** Antigen Presenting Cell

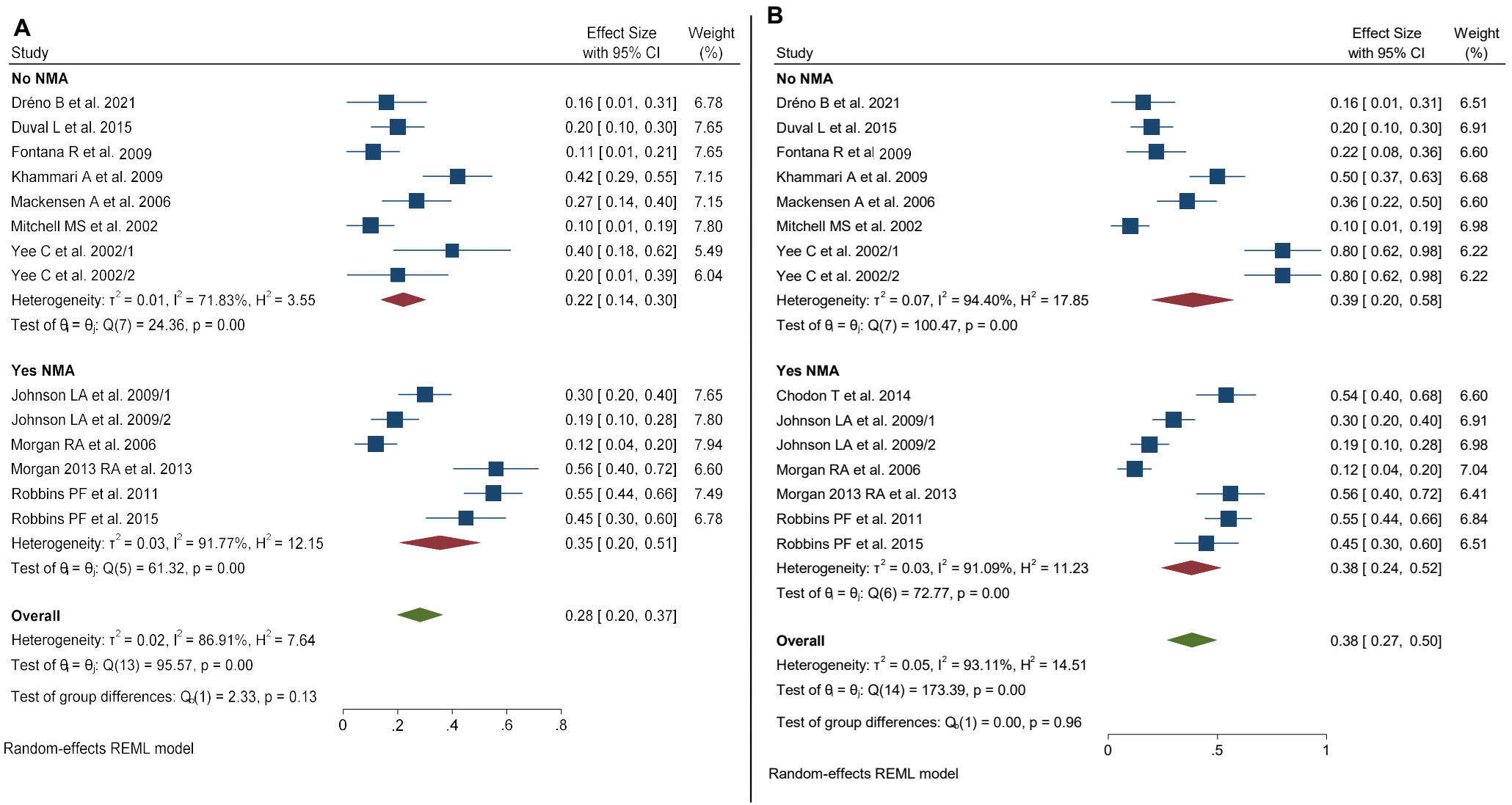
Supplementary material S2

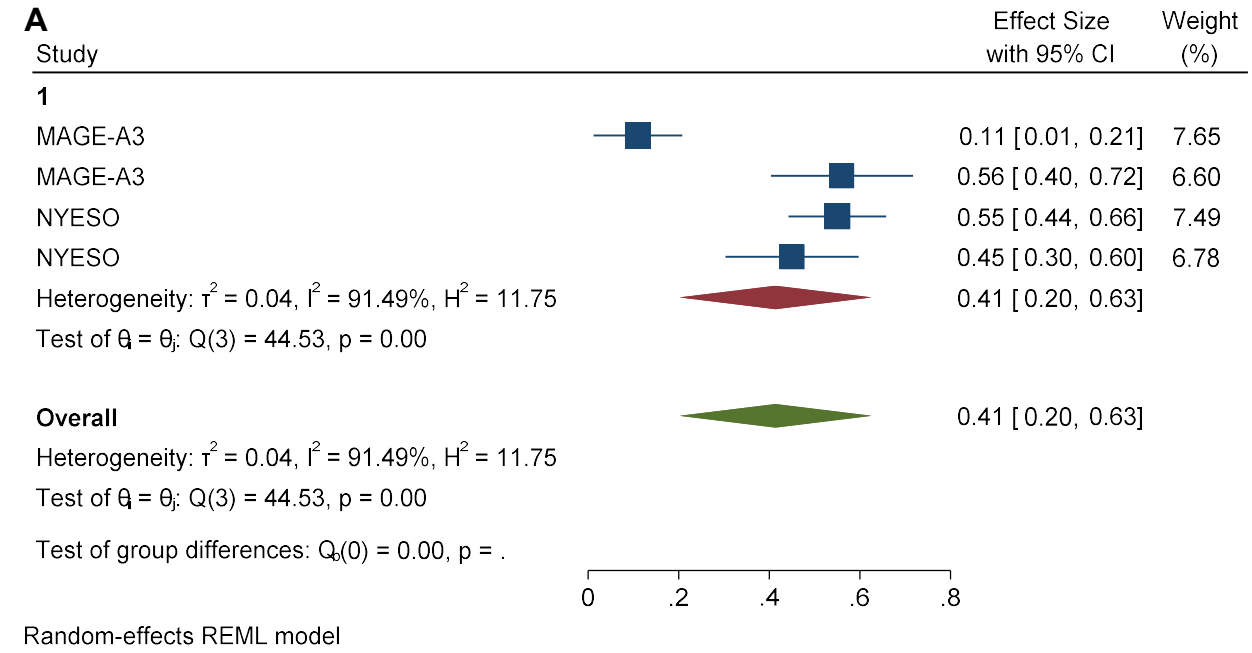


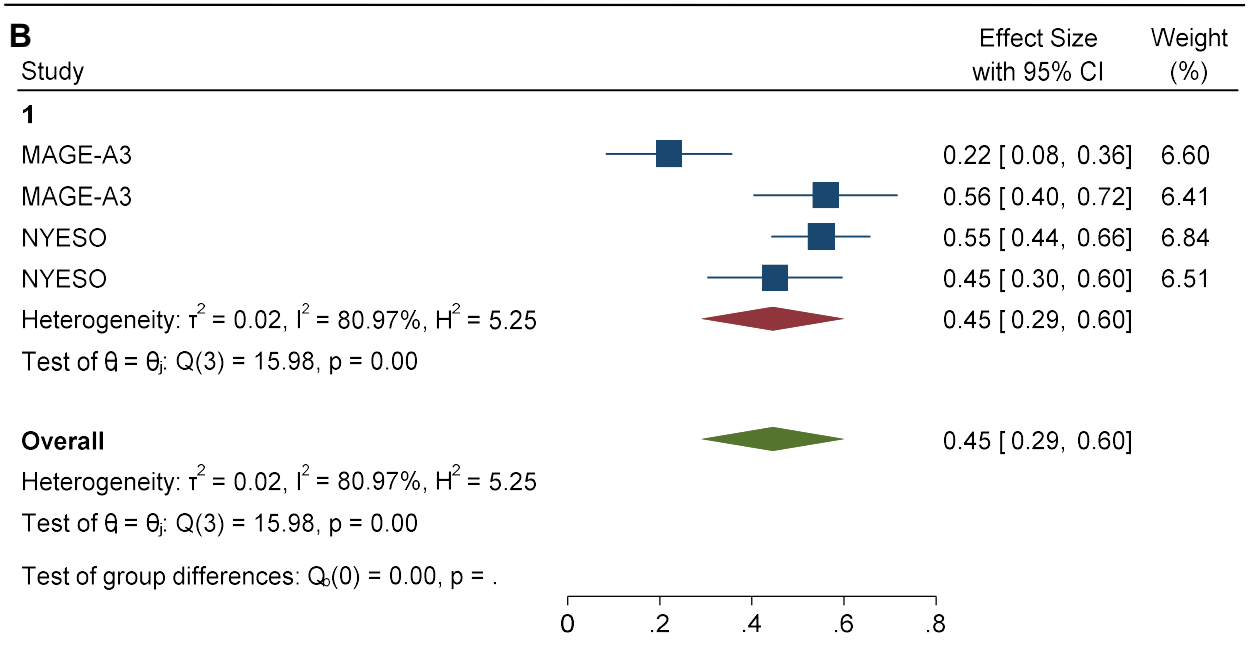
Egger's test p = 0,12

Supplementary material S3

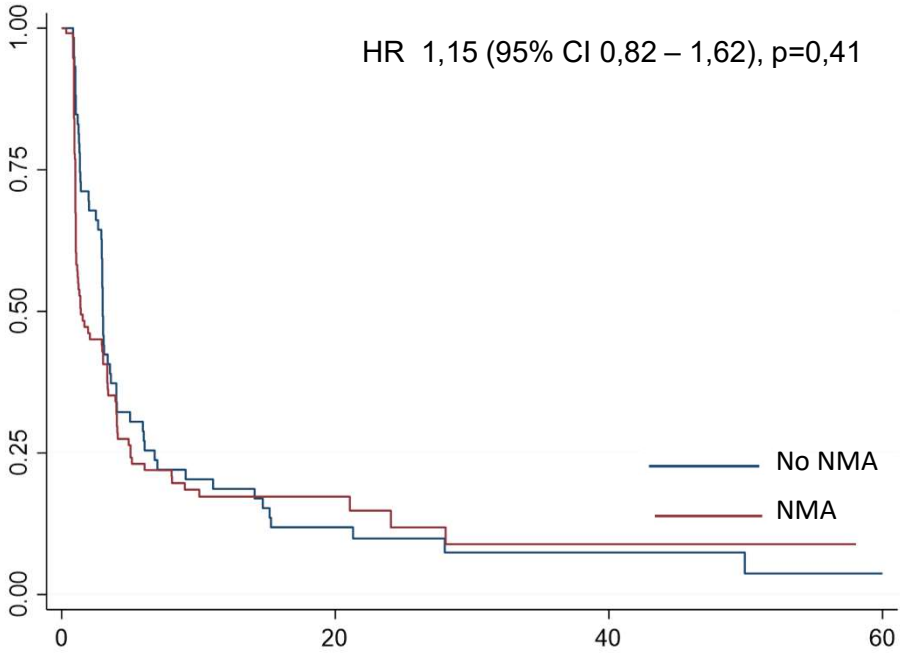


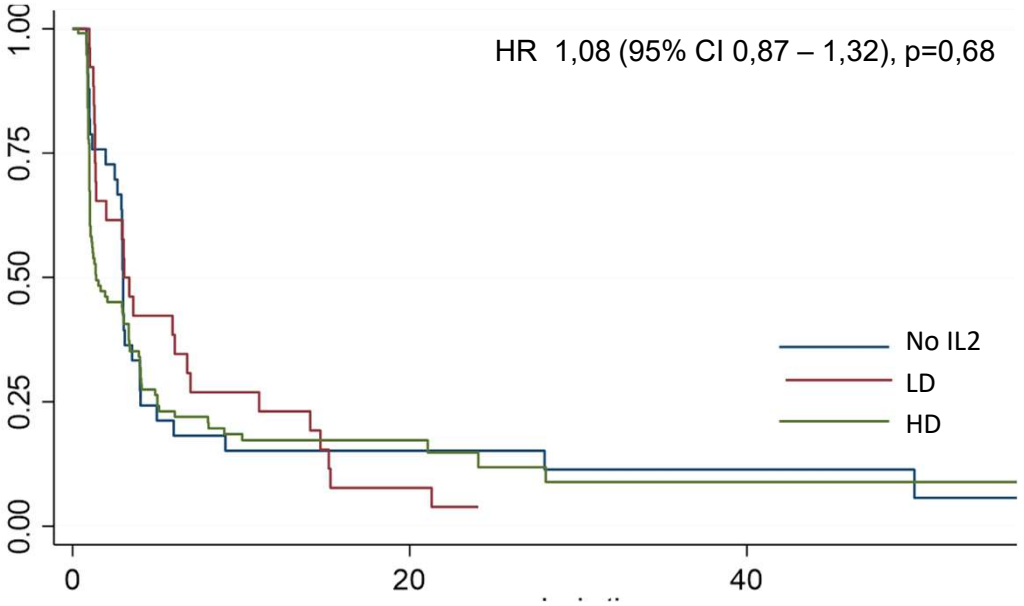

A
Study
Effect Size with 95% CI
Weight (%)
No NMA
Dréno B et al. 2021 0.16 [0.01, 0.31] 6.78
Duval L et al. 2015 0.20 [0.10, 0.30] 7.65
Fontana R et al. 2009 0.11 [0.01, 0.21] 7.65
Khammari A et al. 2009 0.42 [0.29, 0.55] 7.15
Mackensen A et al. 2006 0.27 [0.14, 0.40] 7.15
Mitchell MS et al. 2002 0.10 [0.01, 0.19] 7.80
Yee C et al. 2002/1 0.40 [0.18, 0.62] 5.49
Yee C et al. 2002/2 0.20 [0.01, 0.39] 6.04
Heterogeneity: τ² = 0.01, I² = 71.83%, H² = 3.55 0.22 [0.14, 0.30]
Test of θi = θj: Q(7) = 24.36, p = 0.00
Yes NMA
Johnson LA et al. 2009/1 0.30 [0.20, 0.40] 7.65
Johnson LA et al. 2009/2 0.19 [0.10, 0.28] 7.80
Morgan RA et al. 2006 0.12 [0.04, 0.20] 7.94
Morgan 2013 RA et al. 2013 0.56 [0.40, 0.72] 6.60
Robbins PF et al. 2011 0.55 [0.44, 0.66] 7.49
Robbins PF et al. 2015 0.45 [0.30, 0.60] 6.78
Heterogeneity: τ² = 0.03, I² = 91.77%, H² = 12.15 0.35 [0.20, 0.51]
Test of θi = θj: Q(5) = 61.32, p = 0.00
Overall 0.28 [0.20, 0.37]
Heterogeneity: τ² = 0.02, I² = 86.91%, H² = 7.64
Test of θi = θj: Q(13) = 95.57, p = 0.00
Test of group differences: Qb(1) = 2.33, p = 0.13
0 .2 .4 .6 .8
Random-effects REML model
B
Study
Effect Size with 95% CI
Weight (%)
No NMA
Dréno B et al. 2021 0.16 [0.01, 0.31] 6.51
Duval L et al. 2015 0.20 [0.10, 0.30] 6.91
Fontana R et al 2009 0.22 [0.08, 0.36] 6.60
Khammari A et al. 2009 0.50 [0.37, 0.63] 6.68
Mackensen A et al. 2006 0.36 [0.22, 0.50] 6.60
Mitchell MS et al. 2002 0.10 [0.01, 0.19] 6.98
Yee C et al. 2002/1 0.80 [0.62, 0.98] 6.22
Yee C et al. 2002/2 0.80 [0.62, 0.98] 6.22
Heterogeneity: τ² = 0.07, I² = 94.40%, H² = 17.85 0.39 [0.20, 0.58]
Test of θi = θj: Q(7) = 100.47, p = 0.00
Yes NMA
Chodon T et al. 2014 0.54 [0.40, 0.68] 6.60
Johnson LA et al. 2009/1 0.30 [0.20, 0.40] 6.91
Johnson LA et al. 2009/2 0.19 [0.10, 0.28] 6.98
Morgan RA et al. 2006 0.12 [0.04, 0.20] 7.04
Morgan 2013 RA et al. 2013 0.56 [0.40, 0.72] 6.41
Robbins PF et al. 2011 0.55 [0.44, 0.66] 6.84
Robbins PF et al. 2015 0.45 [0.30, 0.60] 6.51
Heterogeneity: τ² = 0.03, I² = 91.09%, H² = 11.23 0.38 [0.24, 0.52]
Test of θi = θj: Q(6) = 72.77, p = 0.00
Overall 0.38 [0.27, 0.50]
Heterogeneity: τ² = 0.05, I² = 93.11%, H² = 14.51
Test of θi = θj: Q(14) = 173.39, p = 0.00
Test of group differences: Qb(1) = 0.00, p = 0.96
0 .5 1
Random-effects REML model

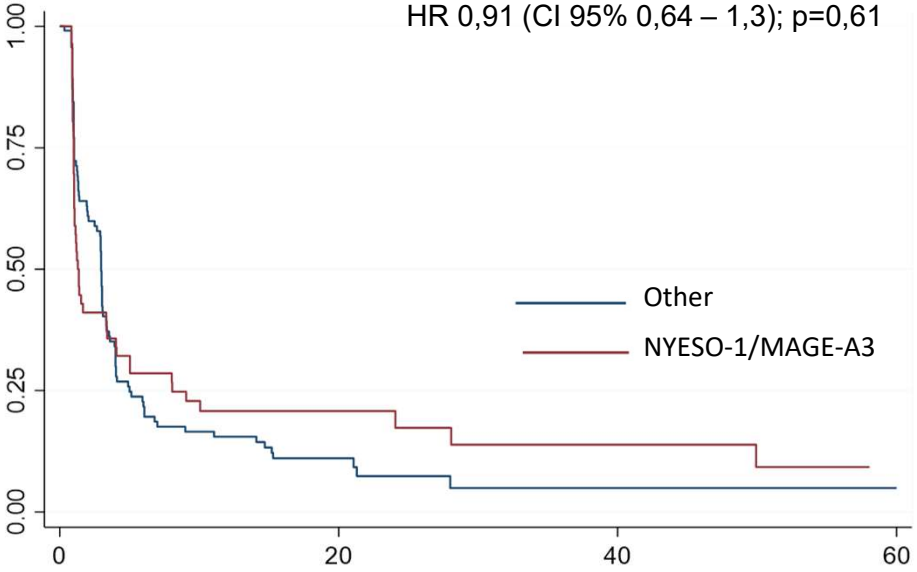

A
Study
Effect Size with 95% CI
Weight (%)
1
MAGE-A3
0.11 [0.01, 0.21] 7.65
MAGE-A3
0.56 [0.40, 0.72] 6.60
NYESO
0.55 [0.44, 0.66] 7.49
NYESO
0.45 [0.30, 0.60] 6.78
Heterogeneity: τ² = 0.04, I² = 91.49%, H² = 11.75
0.41 [0.20, 0.63]
Test of θi = θj: Q(3) = 44.53, p = 0.00
Overall
0.41 [0.20, 0.63]
Heterogeneity: τ² = 0.04, I² = 91.49%, H² = 11.75
Test of θi = θj: Q(3) = 44.53, p = 0.00
Test of group differences: Qb(0) = 0.00, p = .
0
.2
.4
.6
.8
Random-effects REML model

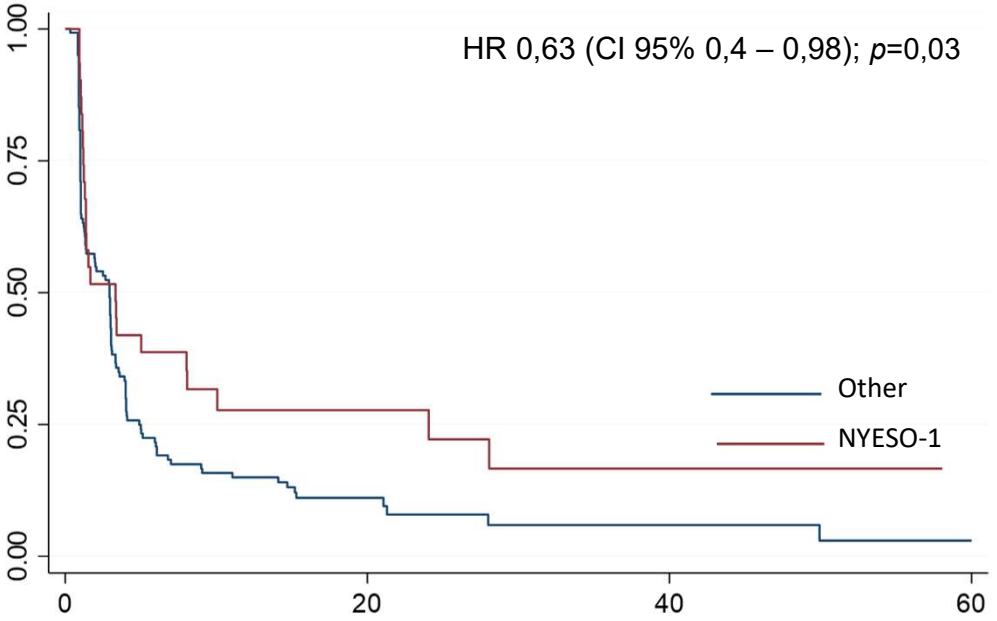

B
Study
Effect Size with 95% CI
Weight (%)
1
MAGE-A3
0.22 [0.08, 0.36] 6.60
MAGE-A3
0.56 [0.40, 0.72] 6.41
NYESO
0.55 [0.44, 0.66] 6.84
NYESO
0.45 [0.30, 0.60] 6.51
Heterogeneity: τ² = 0.02, I² = 80.97%, H² = 5.25
0.45 [0.29, 0.60]
Test of θi = θj: Q(3) = 15.98, p = 0.00
Overall
0.45 [0.29, 0.60]
Heterogeneity: τ² = 0.02, I² = 80.97%, H² = 5.25
Test of θi = θj: Q(3) = 15.98, p = 0.00
Test of group differences: Qb(0) = 0.00, p = .
0
.2
.4
.6
.8
Random-effects REML model

Supplementary material S6

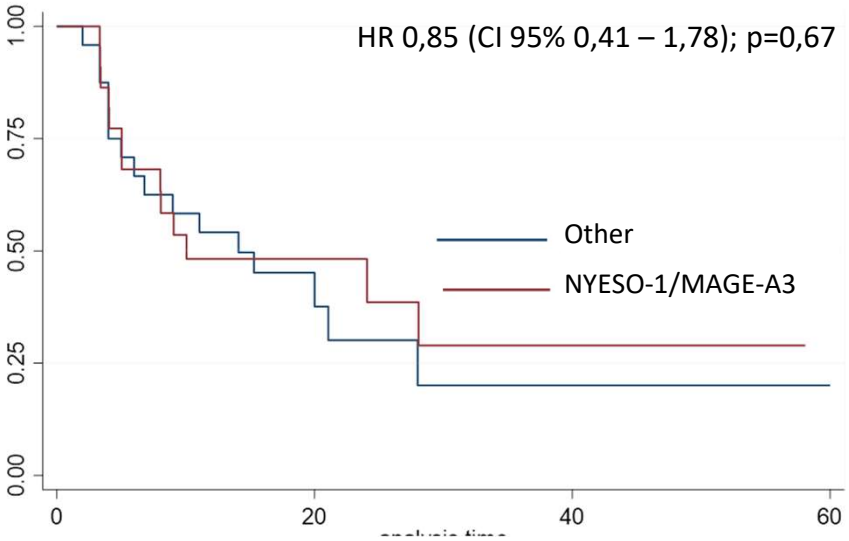


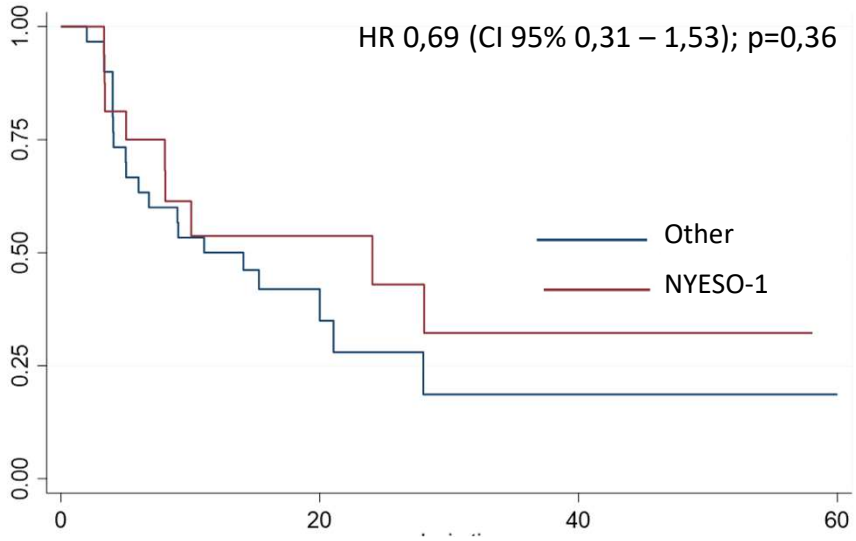
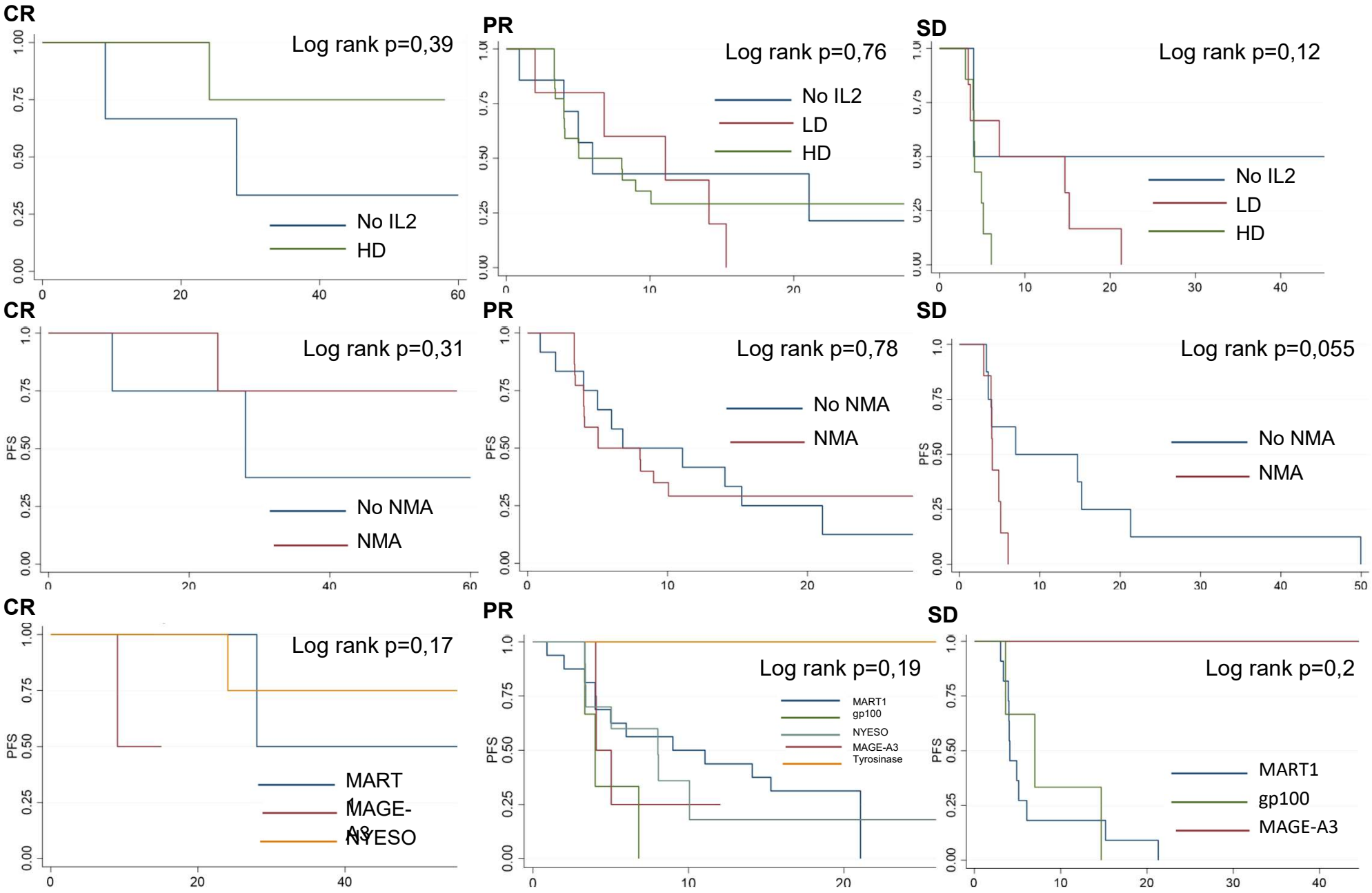






Supplementary material S7





Supplementary material S8