

SUPPLEMENTARY APPENDIX

Factors associated with the clinical outcome of patients with relapsed/refractory CD19⁺ acute lymphoblastic leukemia treated with ARI-0001 CART19-cell therapy

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SUPPLEMENTARY TABLES

Supplementary Table 1: Baseline characteristics of patients with relapsed-refractory acute lymphoblastic leukemia who received ARI-0001 cell therapy

Characteristic	n = 53
Age in years, median (range)	30 (3-68)
Female sex, n (%)	24 (54)
Presence of Philadelphia chromosome, n (%)	6 (11)
Prior lines of therapy, median (range)	4 (2-8)
Prior IO, n (%)	28 (53)
Prior blinatumomab, n (%)	12 (23)
Prior alloHCT, n (%)	42 (79)
Measurable disease at screening, n (%)	42 (79)
Extramedullary disease, n (%)	19 (36)
≥ 5% blasts in the bone marrow, n (%)	22 (42)
CNS disease, n (%)	7 (13)
Follow-up in months from infusion, median (range)	19 (3-40)

Abbreviations: IO, inotuzumab ozogamicin; alloHCT, allogeneic hematopoietic cell transplantation; CNS, central nervous system.

Supplementary Table 2: Subgroup analysis of efficacy of ARI-0001 cells in patients with acute lymphoblastic leukemia

Population	n	Progression-free survival		Overall survival	
		Median (95% CI) 2-year rate (95% CI)	Univariate HR (95% CI), p value*	Median (95% CI) 2-year rate (95% CI)	Univariate HR (95% CI), p value*
Total	53	13.52 mo (7.14-NA) 32.9% (20.6-52.6%)		29.2 mo (15.0-NA) 53.9% (40.5-71.8%)	
Single dose	15	14.4 mo (6.94-NA) 26.7% (11.5-61.7%)		29.2 mo (11.5-NA) 53.3% (33.2-85.6%)	
Fractionated	38	13.5 mo (5.3-NA) 42.0% (27.5-64.2%)	0.88 (0.41-1.86), p = 0.73	NA (14.5-NA) 54.4% (38.4-77.1%)	0.91 (0.36-2.31), p = 0.84
< 25 years	20	17.53 mo (13.52-NA) 31.6% (14.5-68.9%)		29.2 mo (15.8-NA) 57.2% (38.4-85.1%)	
≥ 25 years	33	7.83 mo (5.23-NA) 37.6% (23-61.6%)	1.34 (0.64-2.81), p = 0.59	NA (11.5-NA) 53.4% (36.7-77.8%)	1.25 (0.52-3.01), p = 0.84
< 5% blasts in BM	31	NA (7.14-NA) 52.5% (36.4-75.7%)		NA (29.2-NA) 72% (56.2-92.2%)	
≥ 5% blasts in BM	22	9.38 mo (3.45-NA) 10.7% (2.1-54.4%)	2.14 (1.04-4.42), p = 0.077	15.4 mo (10.4-NA) 33.4% (17.6-63.5%)	2.55 (1.06-6.17), p = 0.134
Loss of BCA	53		4.41 (1.59-12.21), p = 0.0172		1.28 (0.44-3.68), p = 0.84

Abbreviations: BM, bone marrow; IO, inotuzumab ozogamicin; alloHCT, allogeneic hematopoietic cell transplantation; BCA, B-cell aplasia; CI, confidence interval; mo, months; NA, not available/not reached; HR, hazard ratio.

*Adjusted according to Benjamini-Hochberg method

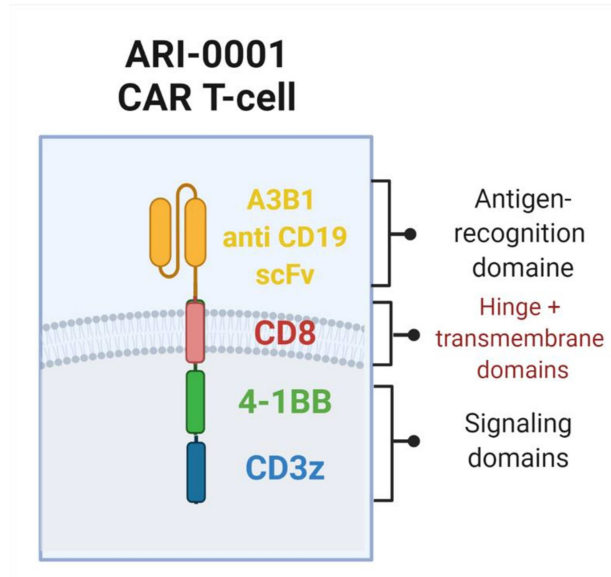
Supplementary Table 3: Landmark analyses evaluating the impact of loss of B-cell aplasia at different time points

Population	n	Progression-free survival	
		Median (95% CI) 2-year rate (95% CI)	Univariate HR (95% CI), p value
Loss of BCA < 3 mo	15	11.4 (1.14-NE) 22.5% (8.4-60.3%)	1.83 (0.82-4.11), p = 0.15
Loss of BCA ≥ 3 mo	30	15.5 mo (6.38-NE) 49.3% (32.5-74.8%)	
Loss of BCA < 6 mo	17	17.1 (8.38-NE) 43.5% (23.0-82.2%)	1.39 (0.45-4.28), p = 0.56
Loss of BCA ≥ 6 mo	15	NE (7.52-NE) 55.3% (31.2-98.0%)	

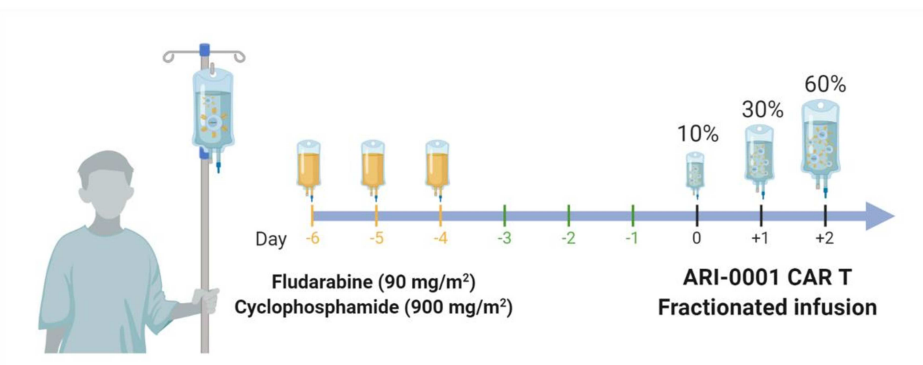
Abbreviations: BCA, B-cell aplasia; CI, confidence interval; NE, not estimable; HR, hazard ratio.

SUPPLEMENTARY FIGURES

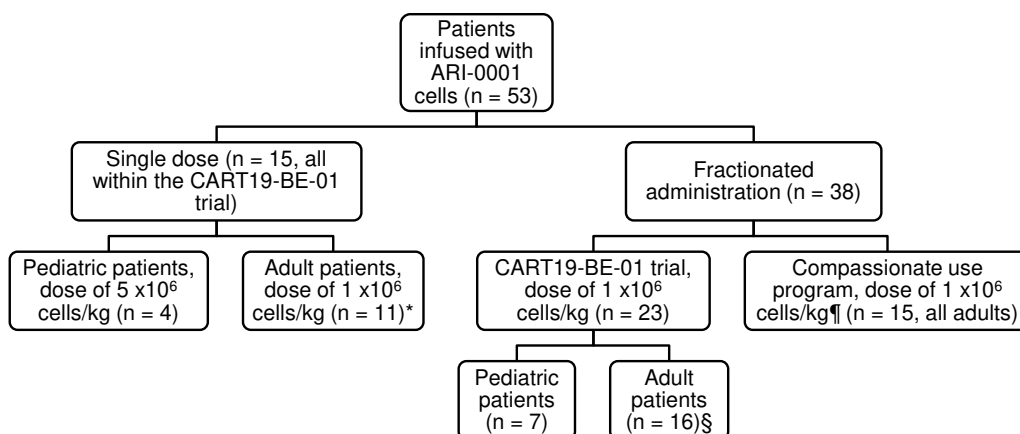
Supplementary Figure 1: Diagram of ARI-0001 chimeric antigen receptor construct



Supplementary Figure 2: Diagram of the lymphodepleting chemotherapy and ARI-0001 cells infusion used in the CART19-BE-01 clinical trial and subsequent compassionate use program



Supplementary Figure 3: Patients' disposition



*The first patient ever treated with ARI-0001 cells only received 0.5×10^6 cells/kg as mandated by the Spanish Medicines Agency.

§One adult patient recruited into the CART19-BE-01 trial received 0.4×10^6 cells/kg because of cytokine release syndrome after the second fraction.

¶Two adult patients recruited into the compassionate use program received 0.1×10^6 cells/kg because of cytokine release syndrome after the first fraction.