Investigating the influence of germline *ATM* variants in chronic lymphocytic leukemia on cancer vulnerability

Roberta S. Azevedo,[1,2]* Francesca Morelli,[1,3]* Kiyomi Mashima,[1] Rayan Fardoun,[1] Svitlana Tyekucheva,[4,5] Stacey Fernandes,[1] Samantha Shupe,[1] Marissa Terra,[1] Anisha Patel,[1] Matthew S. Davids,[1,6] Joseph Yu[1] and Jennifer R. Brown[1,6]

[1]Department of Medical Oncology, Dana-Farber Cancer Institute, Boston, MA, USA; [2]Hospital Nove de Julho, São Paulo, Brazil; [3]Department of Hematology, University of Florence, Florence, Italy; [4]Department of Data Science, Dana-Farber Cancer Institute, Boston, MA, USA; [5]Department of Biostatistics, Harvard T.H. Chan School of Public Health, Boston, MA, USA and [6]Department of Medicine, Harvard Medical School, Boston, MA, USA

RSA and FM contributed equally as first authors.

Supplemental Table 1: Demographic and Clinical Characteristic of all Cohort[#]			
Characteristic	Patients who replied to the questionnaires (N = 333)	Patients who did not reply to the questionnaires (N = 254)	p value
Age at diagnosis			p=0.03
Median (range) – years	60 (28-89)	57 (23-89)	
Distribution – no (%)			
≤ 55 years	114 (34)	110 (43)	
Sex – n (%)			p=0.09
Male	189 (57)	162 (64)	
Female	144 (43)	92 (36)	
Ethnicity – n (%)			<0.001
Not Hispanic or Latino	327 (98)	220 (87)	
Hispanic or Latino	4 (1)	6 (2)	
Unknown	2 (1)	26 (10)	
Richter's transformation – n (%)			0.68
Yes	9 (3)	10 (4)	
No	324 (97)	244 (96)	
***ATM* mutation – no (%)**			0.06
Germline	85 (25)	58 (23)	
Somatic	22 (7)	7 (3)	
Neither germline or somatic	226 (68)	189 (74)	
IGHV status – n (%)			0.36
Mutated	147 (44)	120 (47)	
Unmutated	152 (46)	102 (40)	
Unknown	34 (10)	32 (13)	
Del(17p) and/or *TP53* aberration – n (%)			0.09
Yes	48 (14)	45 (18)	
No	283 (85)	203 (80)	
Unknown	2 (1)	6 (2)	
Year of CLL diagnosis			0.04
Median (range) - year	2015 (1980-2019)	2016 (1995-2019)	

[#]All patients who were sent questionnaires. CLL: chronic lymphocytic leukemia; IGHV: immunoglobulin heavy chain variable region gene.

Supplemental Table 2: Geographic Regions of Europe*	
Geographic Regions	**Patients (N = 206)**
Northern	61
Southern	30
Western	14
Eastern	23
Northern + Western	38
Northern + Southern	13
Northern + Eastern	11
Western + Eastern	6
Southern + Eastern	4
Western + Southern	2
Three or more Geographic Regions	4

* United Nations geoscheme subregions of Europe: Eastern Europe: Belarus, Bulgaria, Czechia, Hungary, Poland, Republic of Moldova, Romania, Russian Federation, Slovakia, Ukraine; Northern Europe: Aland Islands, Denmark, Estonia, Faroe Islands, Filand, Guernsey, Iceland, Ireland, Isle of Man, Jersey, Latvia, Lithuania, Norway, Svalbard and Jan Mayen Island, Sweden, United Kindom of Great Britain and Northern Ireland; Southern Europe: Albania, Andorra, Bosnia and Herzegovina, Croatia, Gibraltar, Greece, Holy See, Italy, Malta, Montenegro, North Macedonia, Portugal, San Marino, Serbia, Slovenia, Spain; Western Europe: Austria, Belgium, France, Germany, Liechtenstein, Luxembourg, Monaco, Netherlands, Switzerland, Landlocked Developing Countries (LLDC), Least Developed Countries (LDC).