

# The oncogenetic landscape and clinical impact of *BCL11B* alterations in adult and pediatric T-cell acute lymphoblastic leukemia

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<https://doi.org/10.3324/haematol.2022.282605>

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**Supplementary figure and tables**

**Suppl Table 1. Clinical and biological characteristics of FRALLE 2000T treated patients according to *BCL11B* status**

<b>FRALLE 2000T</b>	<b>Overall N = 261</b>	<b>BCL11B<sup>WT</sup> N = 223 (85%)</b>	<b>BCL11B<sup>ALT</sup> N = 38 (15%)</b>	<b>p-value<sup>1</sup></b>
<b>Clinical characteristics</b>				
Age at Diagnosis (y), Median (range)	9.25 (1.08-19.50)	9.17 (1.08-19.50)	10.46 (1.83-18.67)	0.33
Sex, n (%)				0.53
Male	203 (78%)	175 (78%)	28 (74%)	
Female	58 (22%)	48 (22%)	10 (26%)	
WBC (G/l), Median (range)	96.90 (0.30-980.00)	98.50 (0.30-965.00)	80.00 (5.70-980.00)	0.073
CNS Involvement, n / N (%)	27 / 259 (10%)	19 / 221 (9%)	8 / 38 (21%)	<b>0.038</b>
<b>Response to therapy, n/N (%)</b>				
Good prednisone response	143 / 252 (57%)	115 / 217 (53%)	28 / 35 (80%)	<b>0.003</b>
Chemosensitivity	216 / 253 (85%)	183 / 217 (84%)	33 / 36 (92%)	0.32
MRD1 > 10 <sup>-4</sup>	86 / 219 (39%)	81 / 186 (44%)	5 / 33 (15%)	<b>0.002</b>
Complete Remission	242 / 261 (93%)	206 / 223 (92%)	36 / 38 (95%)	>0.99
Allogeneic HSCT	24 / 242 (10%)	22 / 206 (11%)	2 / 36 (6%)	0.55
<b>ETP status<sup>2</sup>, n (%)</b>	16 (13%)	16 (16%)	0 (0%)	<b>0.041</b>
<b>Phenotypic Classification<sup>3</sup>, n (%)</b>				<b>&lt;0.001</b>
IM0/δ/γ	35 (16%)	35 (20%)	0 (0%)	
IMβ/Pre-αβ	105 (49%)	79 (44%)	26 (76%)	
TCR γδ	30 (14%)	28 (16%)	2 (6%)	
<b>Molecular Classification<sup>4</sup>, n (%)</b>				<b>&lt;0.001</b>
PICALM::MLLT10	4 (2%)	4 (2%)	0 / 37 (0%)	
TLX1	9 (4%)	3 (1%)	6 / 38 (16%)	
TLX3	47 (22%)	38 (21%)	9 / 38 (24%)	
SIL-TAL1	39 (18%)	35 (20%)	4 / 38 (11%)	
Negative	117 (54%)	99 (56%)	18 / 38 (49%)	
<b>Risk Classifier, n (%)</b>				<b>0.022</b>
High	122 (47%)	111 (50%)	11 (29%)	
Low	139 (53%)	112 (50%)	27 (71%)	

<sup>1</sup>Welch Two Sample t-test; Fisher's Exact Test for Count Data; Fisher's Exact Test for Count Data with simulated p-value; <sup>2</sup>ETP status was available for 125 samples; <sup>3</sup>phenotypic classification was available for 213 samples; <sup>4</sup>molecular classification was available for 216 samples

Abbreviations: ALT, alterations; CNS, central nervous system; ETP: early T cell precursor ; MRD1, minimal residual disease; SCT, stem cell transplantation; WBC, white blood cell count; WT, wild type

**Suppl Table 2. Clinical and biological characteristics of GRAALL03/05 treated patients according to *BCL11B* status**

<b>GRAALL03/05</b>	<b>Overall N = 215</b>	<b>BCL11B<sup>WT</sup> N = 167 (78%)</b>	<b>BCL11B<sup>ALT</sup> N = 48 (22%)</b>	<b>p-value<sup>1</sup></b>
<b>Clinical characteristics</b>				
Age at Diagnosis (y), Median (range)	30.50 (16.27-59.15)	30.44 (16.27-59.15)	31.35 (16.42-57.03)	0.93
Sex, n (%)				>0.99
Male	154 (72%)	120 (72%)	34 (71%)	
Female	61 (28%)	47 (28%)	14 (29%)	
WBC (G/l), Median (range)	36.40 (0.90-645.00)	37.80 (0.90-645.00)	28.50 (4.25-295.50)	0.13
CNS Involvement, n (%)	24 (11%)	19 (11%)	5 (10%)	>0.99
<b>Response to therapy, n/N (%)</b>				
Good prednisone response	116 / 215 (54%)	87 / 167 (52%)	29 / 48 (60%)	0.33
Chemosensitivity	121 / 214 (57%)	83 / 166 (50%)	38 / 48 (79%)	<0.001
MRD1 > 10 <sup>-4</sup>	37 / 121 (31%)	36 / 94 (38%)	1 / 27 (4%)	<0.001
Complete Remission	198 / 215 (92%)	151 / 167 (90%)	47 / 48 (98%)	0.13
Allogeneic HSCT	77 / 214 (36%)	65 / 166 (39%)	12 / 48 (25%)	0.088
<b>ETP status<sup>2</sup>, n (%)</b>	40 (22%)	35 (25%)	5 (12%)	0.092
<b>Phenotypic Classification<sup>3</sup>, n (%)</b>				
IM0/δ/γ	54 (26%)	51 (32%)	3 (6%)	
IMβ/Pre-αβ	106 (51%)	70 (44%)	36 (75%)	
TCR γδ	23 (11%)	17 (11%)	6 (12%)	
TCR αβ	23 (11%)	20 (13%)	3 (6%)	
<b>Molecular Classification<sup>4</sup>, n (%)</b>				
PICALM::MLLT10	9 (4%)	9 (5%)	0 (0%)	
TLX1	45 (21%)	19 (11%)	26 (54%)	
TLX3	25 (12%)	19 (11%)	6 (12%)	
SIL-TAL1	18 (8%)	18 (11%)	0 (0%)	
Negative	102 (47%)	89 (53%)	13 (27%)	
<b>Risk Classifier, n (%)</b>				
High	87 (40%)	74 (44%)	13 (27%)	<b>0.045</b>
Low	128 (60%)	93 (56%)	35 (73%)	

<sup>1</sup>Welch Two Sample t-test; Fisher's Exact Test for Count Data; Fisher's Exact Test for Count Data with simulated p-value; <sup>2</sup> ETP status was available for 182 samples; <sup>3</sup> phenotypic classification was available for 206 samples; <sup>4</sup> molecular classification was available for all samples  
Abbreviations: ALT, alterations; CNS, central nervous system; ETP: early T cell precursor ; MRD1, minimal residual disease; SCT, stem cell transplantation; WBC, white blood cell count; WT, wild type

# Supplementary figure 1: Oncoprint representing mutational landscape according to *BCL11B* status



**Protocol**  
 FRALLE2000  
 GRAALL0305

**BCL11B**  
 WT  
 ALT

**Alterations**  
 Frameshift  
 Frameshift Deletion  
 Frameshift Indel  
 Frameshift Insertion  
 In Frame  
 In Frame Deletion  
 In Frame Indel  
 In Frame Insertion  
 Missense  
 Deletion  
 Duplication  
 Splice  
 Multi-hit

**Frequency (%)**  
 ● 25 ● 50 ● 75 ● 100

WT ALT  
 BCL11B status