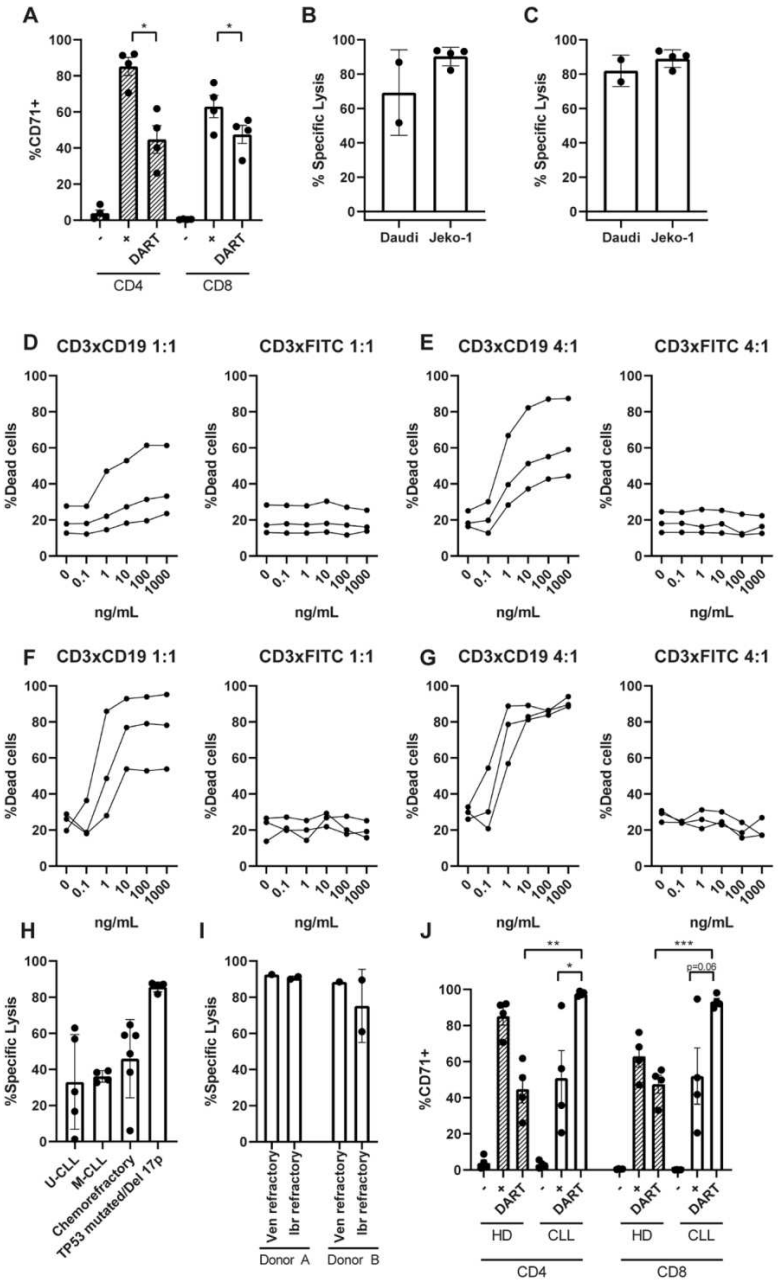
Supplementary figure 1

(**A**) HD PBMCs were CTV labelled and left unstimulated or in the presence of 100ng/mL CD3xCD19 DART or aCD3/aCD28 antibodies. CD71 expression was measured after 4 days. (n=4) (**B-C**) FACS analysis of lysis of CTV labelled CD19+ cell-lines cocultured with healthy donor T cells in presence of CD3x19 DART**.** Lysis of Daudi (n=2) and JeKo-1 (n=4) cell-line in 4:1 E:T ratio after 4 days. Figures B and C represent different T cell donors. (**D-G**) %Dead cells of CTV labelled primary CLL cocultured with healthy donor T cells in presence of CD3xCD19 or CD3xFITC DART**.** Figure represents raw data from figures 2A-B (**D-E**) Primary CLL cells cocultured in different 1:1 (**D**) or 4:1 (**E**) E:T ratios and with different concentrations of the CD3xFITC and CD3xCD19 DART molecules for 24h(n=3) (**F-G**) Primary CLL cells cocultured in different 1:1 (**F**) or 4:1 (**G**) E:T ratios and with different concentrations of the CD3xFITC and CD3xCD19 DART molecules for 4 days (n=3). (**H-I**) FACS analysis of lysis of CTV labelled primary CLL cocultured with healthy donor T cells in presence of CD3xCD19 DART**.** (**H**) Lysis of unmutated IGHV (n=5), mutated IGVH (n=4), chemorefractory (n=6) and TP53 mutated/17p deleted (n=4) CLL by HD T cells in 4:1 E:T ratio after 4 days. Figure represents different T cell donor than used in Fig 2C. (**I**) Lysis of venetoclax refractory (n=1) and ibrutinib refractory (n=2) CLL by HD T cells in 4:1 E:T ratio after 4 days. Donor A and B represent two different T cell donors (**J**) HD* or CLL PBMCs were CTV labelled and left unstimulated or in the presence of 100ng/mL CD3xCD19 DART or aCD3/aCD28 antibodies. CD71 expression was measured after 4 days. (n=4) *Data from HD PBMCs equal to data in figure S1A.

Martens AWJ, *et al. J Immunother Cancer* 2020; 8:e000218. doi: 10.1136/jitc-2019-000218

Supplemental Figure 1



59

60

61

62

Supplementary figure 2

(**A**) CD40 activation of primary CLL was confirmed by measuring resistance to treatment with 0.01uM ABT-199 for 24h (n=6). (**B**) Knock-out of BAX and BAK was confirmed by western blot in 4 JeKo-1 clones. (**C-D**) Viability was assessed of 3T3 (dashed bars) or 3T40 treated (empty bars) CLL cells treated for 24h with ABT-199 and QVD (n=3) (**C**) or for 48h with CD3xCD19 DART and QVD with HD T cells in a 4:1 ratio (**D**) (n=2-3)**.** (**E**) Specific lysis of JeKo-1 cells treated for 24h with 10uM ABT-199 in presence or absence of QVD or co-cultured with HD T cells in 4:1 ratio and 100ng/mL CD3xCD19 DART for 24h in presence or absence of QVD (n=3-6).

Martens AWJ, *et al. J Immunother Cancer* 2020; 8:e000218. doi: 10.1136/jitc-2019-000218

Supplemental Figure 2