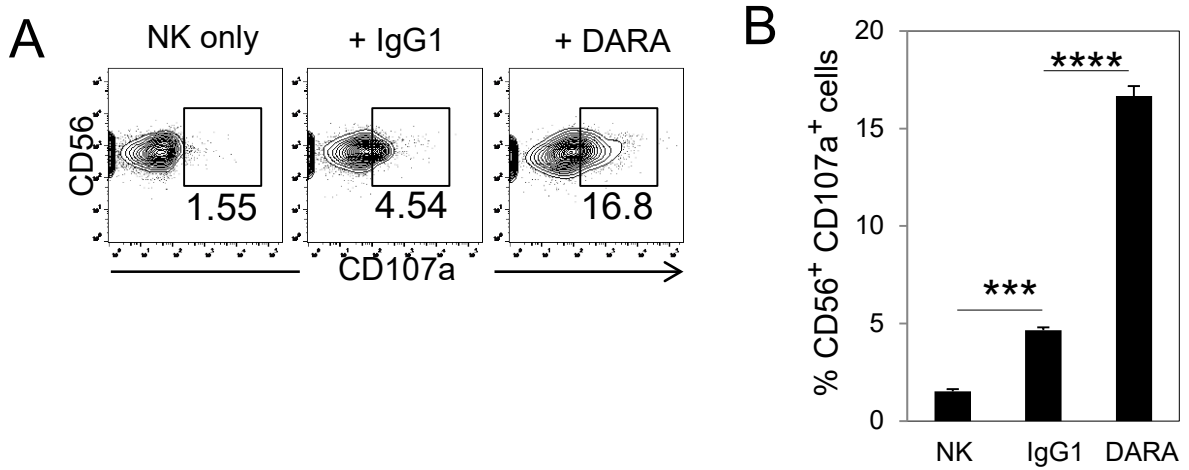


# Supplementary Figure 1

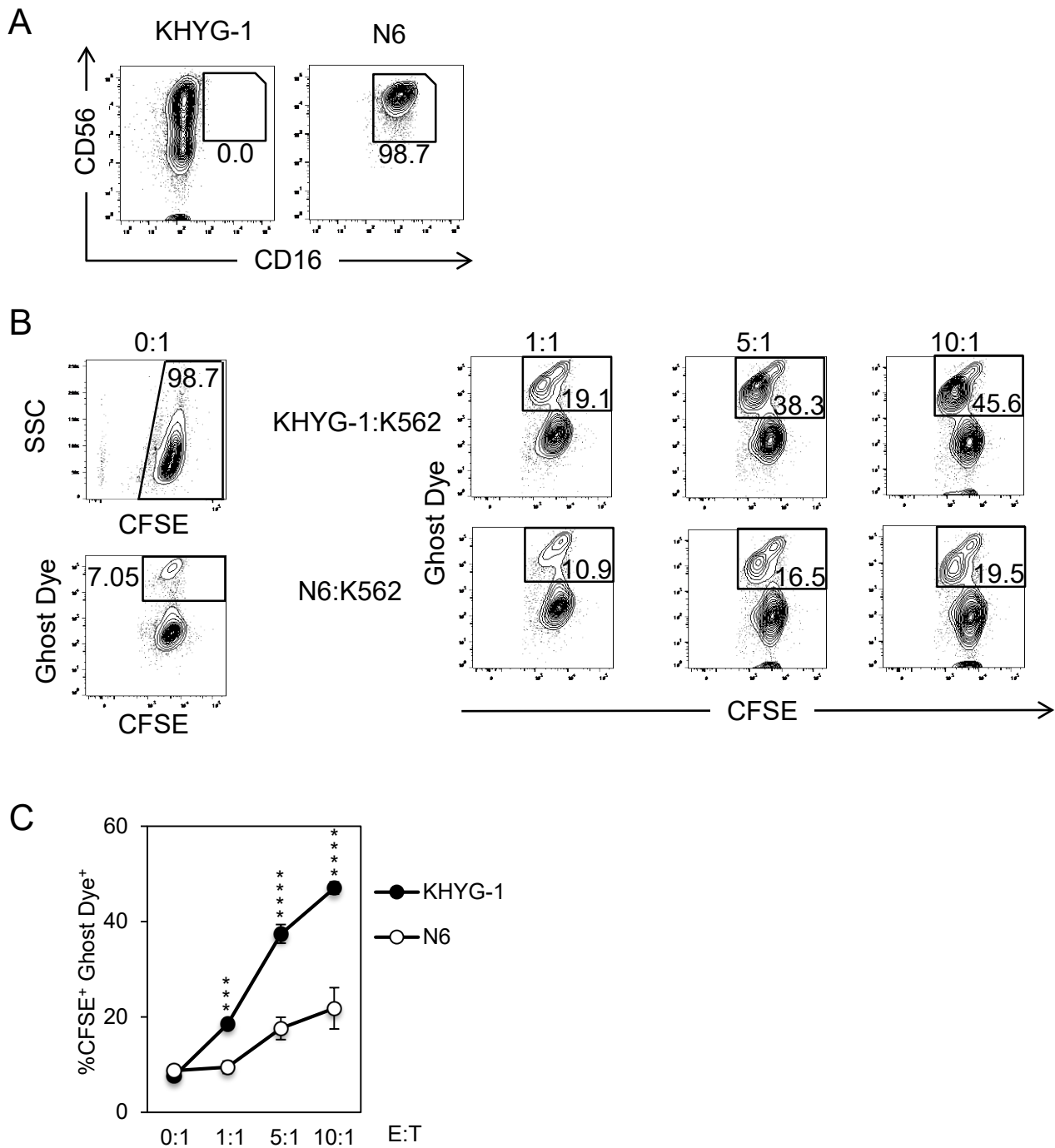


**Supplementary Figure 1.** DARA increases functional CD107a expression on NK cells in the killing activity.

(A) DARA increased the percentage of CD56<sup>+</sup>CD107a<sup>+</sup> cells in the mixture of a killing assay against BCBL-1 cells. Antibody- (10  $\mu$ g/ml of IgG1 or DARA) coated BCBL-1 cell lines were co-cultured with expanded NK cells from a representative healthy donor at an E:T ratio of 5:1 for 4 hours. The CD107a-expressing NK cells were analyzed by flow cytometry. Anti-CD107a antibody was added at the end of assay.

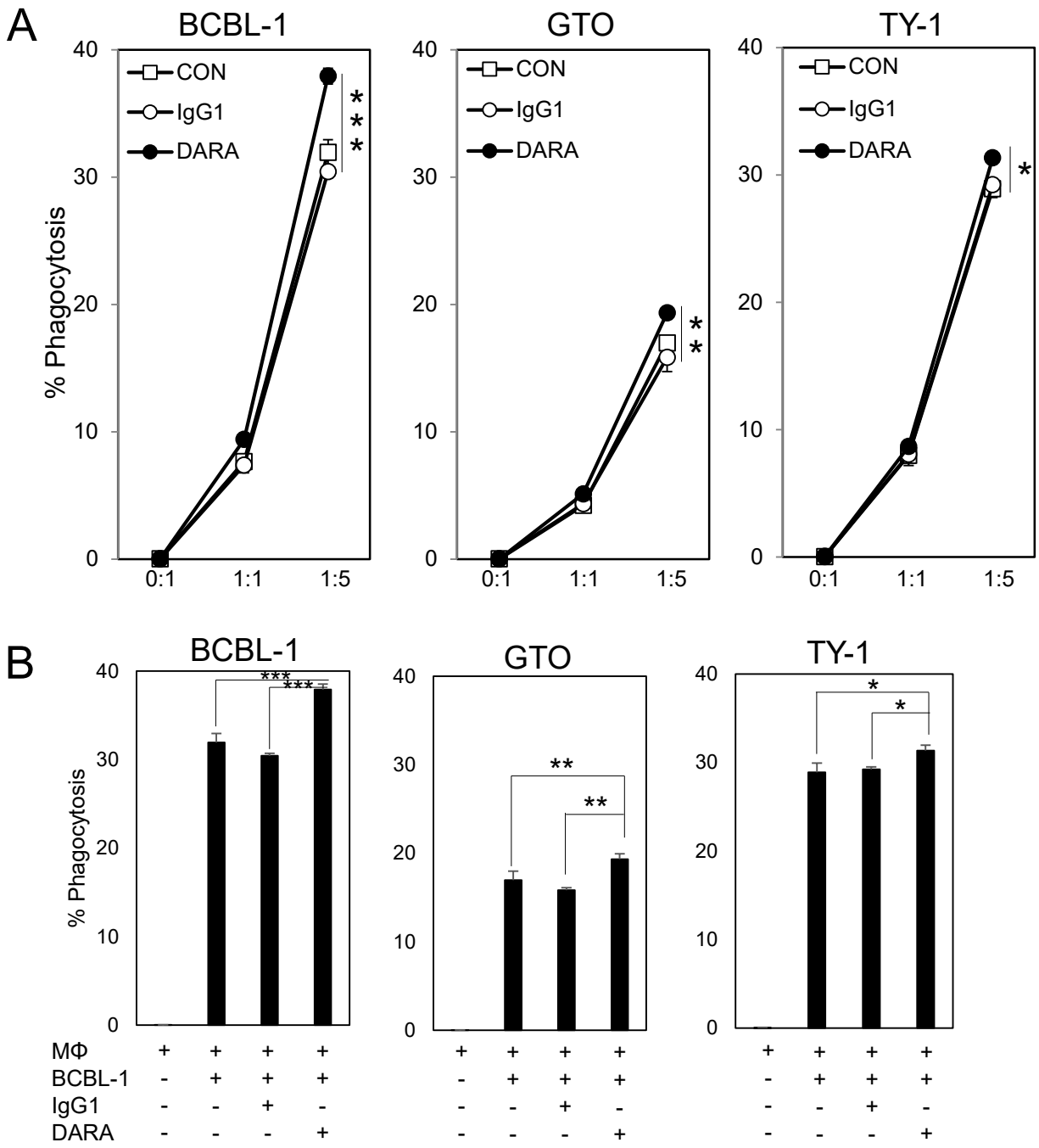
(B) Percentages of CD56<sup>+</sup>CD107a<sup>+</sup> cells are shown, and were analyzed using the student *t*-test. Data are presented as mean values  $\pm$  standard error (SE). \*  $P < 0.05$ , \*\*  $P < 0.01$ , \*\*\*  $P < 0.001$ , \*\*\*\*  $P < 0.0001$  significant levels.

# Supplementary Figure 2



**Supplementary Figure 2. NK cell lines show killing activity towards K562.** (A) The phenotypes of KHYG-1 and N6NK cell lines. (B and C) CFSE-labeling K562 cells were co-cultured with KHYG-1 (CD16<sup>-</sup>) or N6NK (CD16<sup>+</sup>) cells at different E:T ratios for 4 hours. The dead cells were determined using Ghost dye 780 staining. (B) Data of flow cytometric analysis of double Ghost dye 780 and CFSE staining. (C) Percentages of CFSE<sup>+</sup>Ghost Dye<sup>+</sup> are shown, and were analyzed using the paired *t*-test (n=3). Data are presented as mean values  $\pm$  standard error (SE). \* P<0.05, \*\* P<0.01, \*\*\* P<0.001, \*\*\*\* P<0.0001.

# Supplementary Figure 3



**Supplementary Figure 3. DARA demonstrates ADCP in other PELs.** MDMs from a representative healthy donor were plated into a well. CFSE-labeled PEL cells were incubated with either DARA or IgG1 antibody for 15 minutes at room temperature. The antibody coating CFSE-labeled PEL cells were added to the well of MDMs (E: T ratios = 0:1, 1:1, 1:5) and further incubated for 2 hours. Phagocytic cells were defined as CD11b<sup>+</sup>CFSE<sup>+</sup> cells. (A) Data are presented as the % phagocytosis (CD11b<sup>+</sup>CFSE<sup>+</sup> cells). (B) The data are shown at E: T = 1:5. The data are presented as mean values ± the standard error (SE). \* P<0.05, \*\* P<0.01, \*\*\* P<0.001, \*\*\*\* P<0.0001.