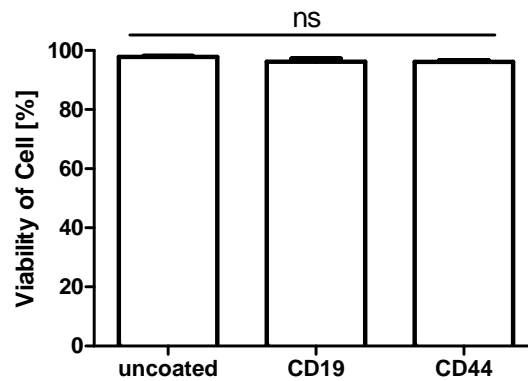


## **Electronic Supplementary Information (ESI)**

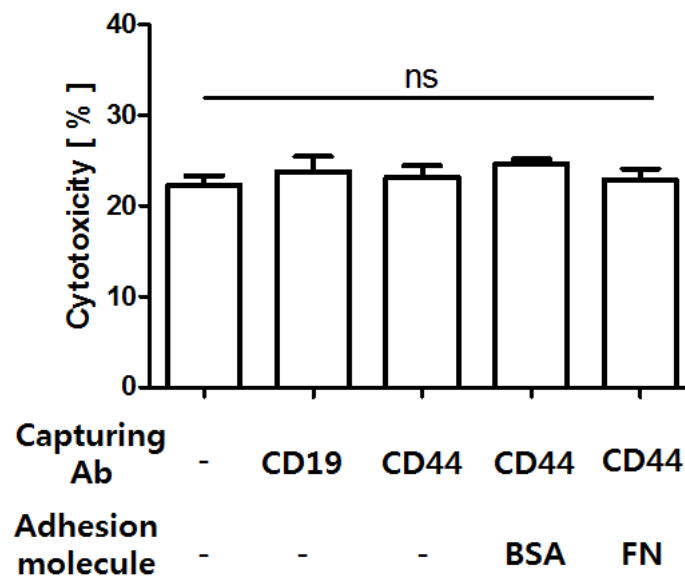
**Article title:** Single cell arrays of hematological cancer cells for assessment of lymphocyte cytotoxicity dynamics, serial killing, and extracellular molecules

**Authors :** Seong-Eun Kim, Hyemi Kim and Junsang Doh

## Supplementary figures



**Figure S1. Effects of capturing antibody on cell viability.** CCRF-SB cells ( $10^5$  cells/well) were added in 96 wells coated with anti-CD19 or anti-CD44 ( $2.5 \mu\text{g/ml}$ ,  $37^\circ\text{C}$  for 1 h) and cultured for 4 h. To assess cell viability, cells were harvested, stained with propidium iodide (PI), and analyzed by flow cytometry. Viability was measured by the percentage of PI<sup>-</sup> cells. Data are representative of three independent experiments. Mann-Whitney test was used, ns: not significant.



**Figure S2. Effects of capturing antibody and adhesion molecule on cytotoxicity.** CCRF-SB cells labeled with CFSE ( $10^5$  cells/well) and NK-92 cells ( $10^5$  cells/well) were added in 96 wells coated with various capturing antibodies ( $2.5 \mu\text{g/ml}$ ,  $37^\circ\text{C}$  for 1 h) and adhesion molecules ( $2.27 \mu\text{M}$ ,  $37^\circ\text{C}$  for 1 h) and cultured for 4 h. To assess cytotoxicity, dead cells were labeled with propidium iodide (PI) staining and flow cytometry was performed. Cytotoxicity was measured by the percentage of CFSE<sup>+</sup>PI<sup>+</sup> cells. Data are representative of three independent experiments. Mann-Whitney test was used, ns: not significant.

## Supplementary movie legends

**Movie S1.** A representative movie of an NK-92 cell interacting with a CCRF-SB cell loaded on a fibronectin-coated microwell with inter-microwell distance of 30  $\mu\text{m}$ . Scale bar: 10  $\mu\text{m}$ . Elapsed time: hh:mm

**Movie S2.** A representative movie of an NK-92 cell interacting with a CCRF-SB cell loaded on a BSA-coated microwells with inter-microwell distance of 30  $\mu\text{m}$ . Scale bar: 10  $\mu\text{m}$ . Elapsed time: hh:mm

**Movie S3.** A representative movie of a CCRF-SB cell loaded in microwell killed by an NK-92 cell exhibiting membrane blebbing and cessation of morphology change prior to SYTOX (green) staining. Scale bar: 10  $\mu\text{m}$ . Elapsed time: hh:mm

**Movie S4.** A representative movie of an NK-92 interacting with CCRF-SB cells loaded on fibronectin-coated microwells with inter-microwell distance of 10  $\mu\text{m}$ . Scale bar: 10  $\mu\text{m}$ . Elapsed time: hh:mm

**Movie S5.** A representative movie of an NK-92 on interacting with CCRF-SB cells loaded in BSA-coated microwells with inter-microwell distance of 10  $\mu\text{m}$ . Scale bar: 10  $\mu\text{m}$ . Elapsed time: hh:mm.