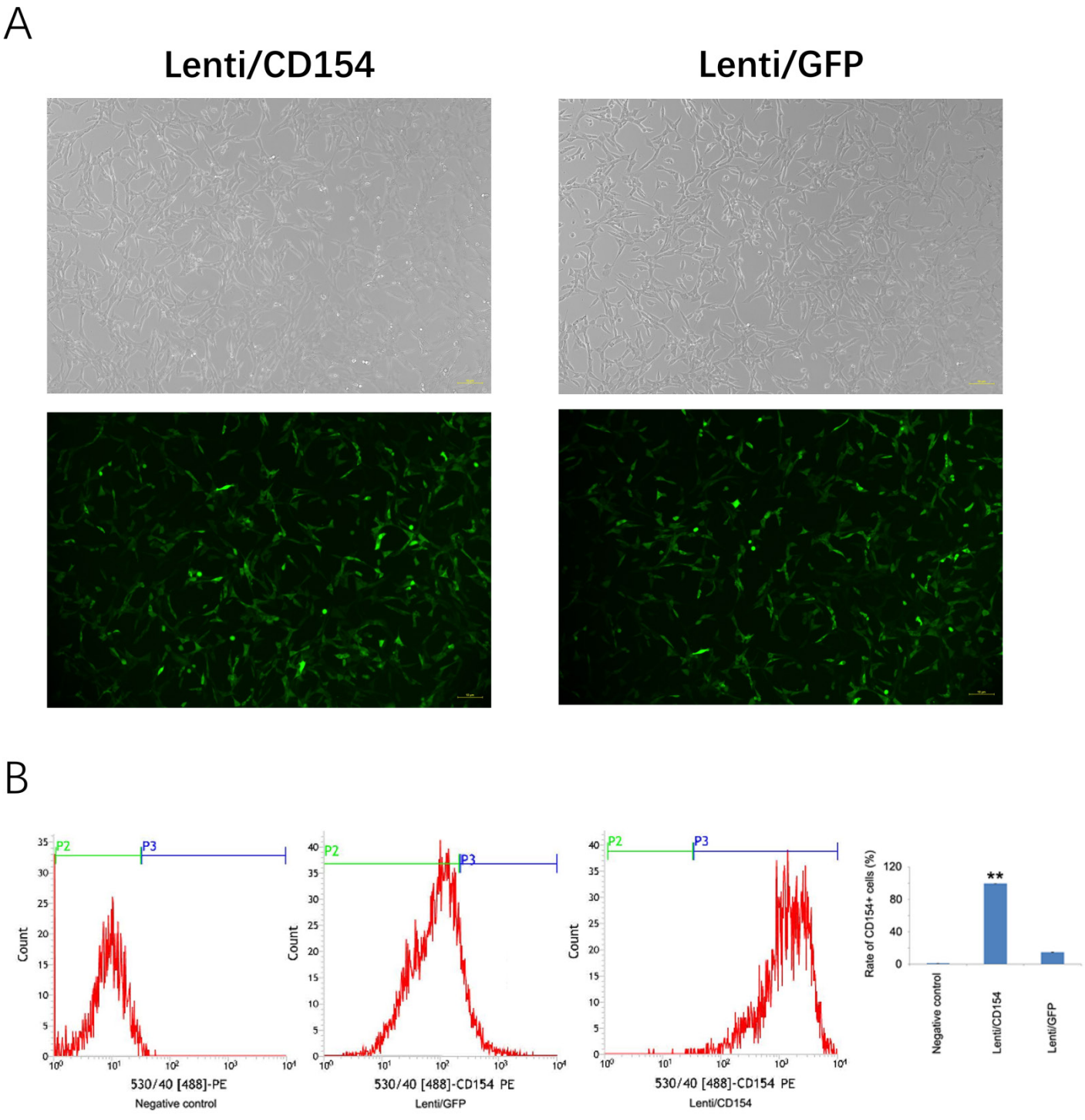
Supporting information

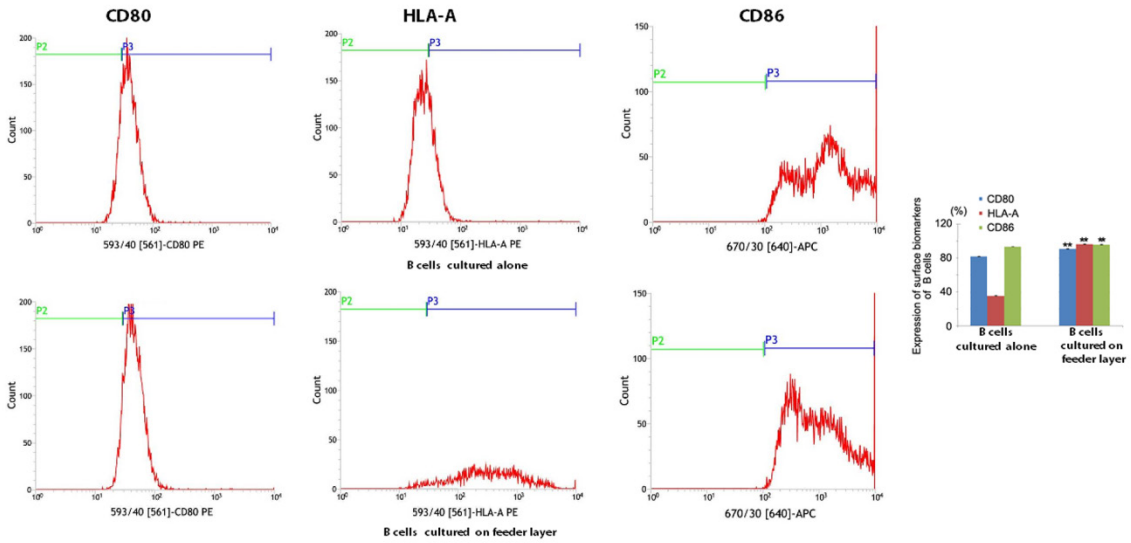


Supplementary Figure 1. The efficiency of CD154 overexpression in NIH3T3 cells. (A) The cell morphology of NIH3T3 cells after Lenti/CD154 or Lenti/GFP transfection was observed under optical microscope (left) and fluorescence

microscope (right). Magnification: 100×. (B) The percentage of $CD154^+$ NIH3T3 cells was determined by flow cytometry.

Negative control is the blank control without antibody in flow cytometry analysis. The figures show the representative results of flow cytometry analysis and the quantitative statistical histogram.

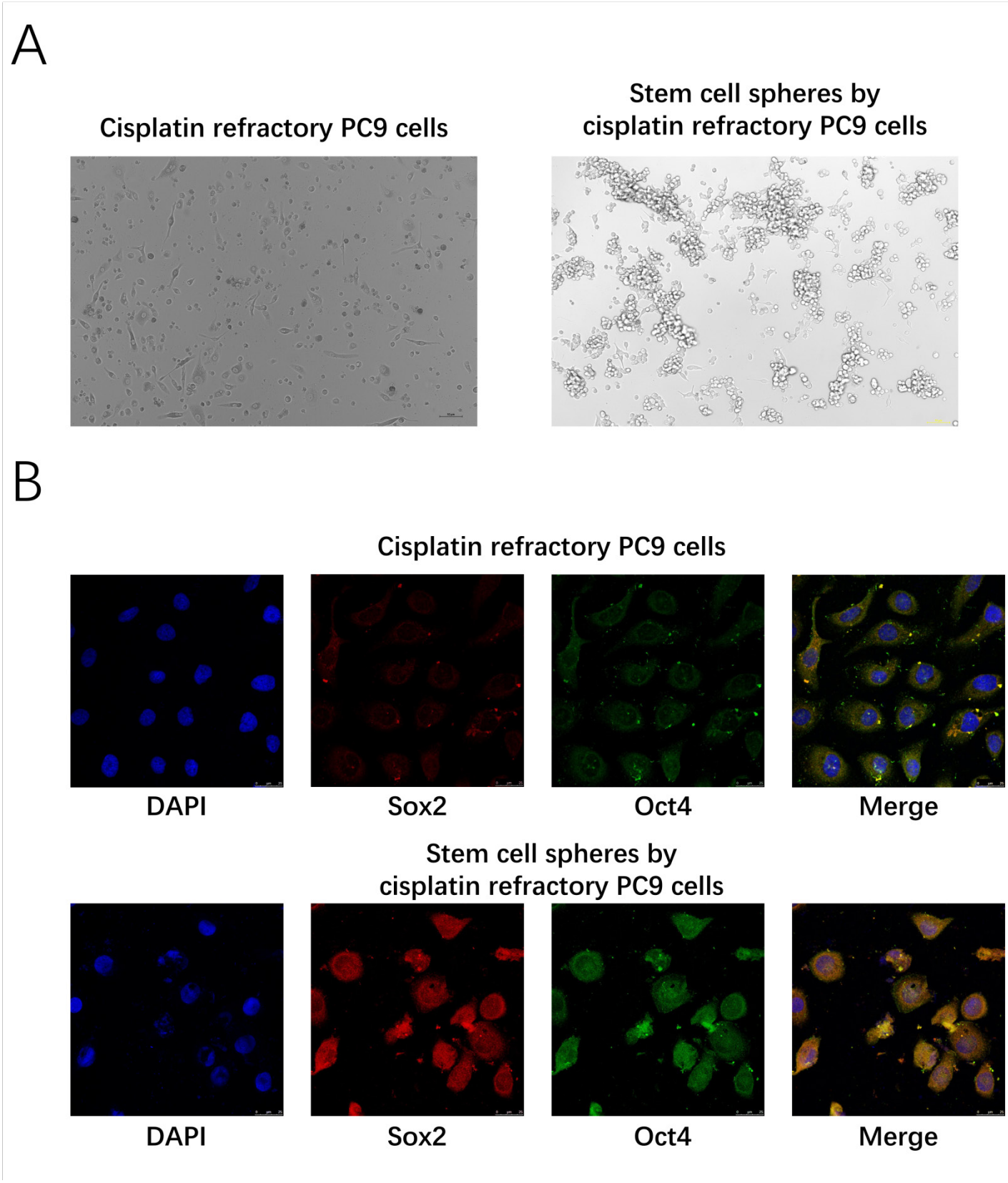
**$p<0.01$, compared with the negative control.



Supplementary Figure 2. The activation of the primary B cells.

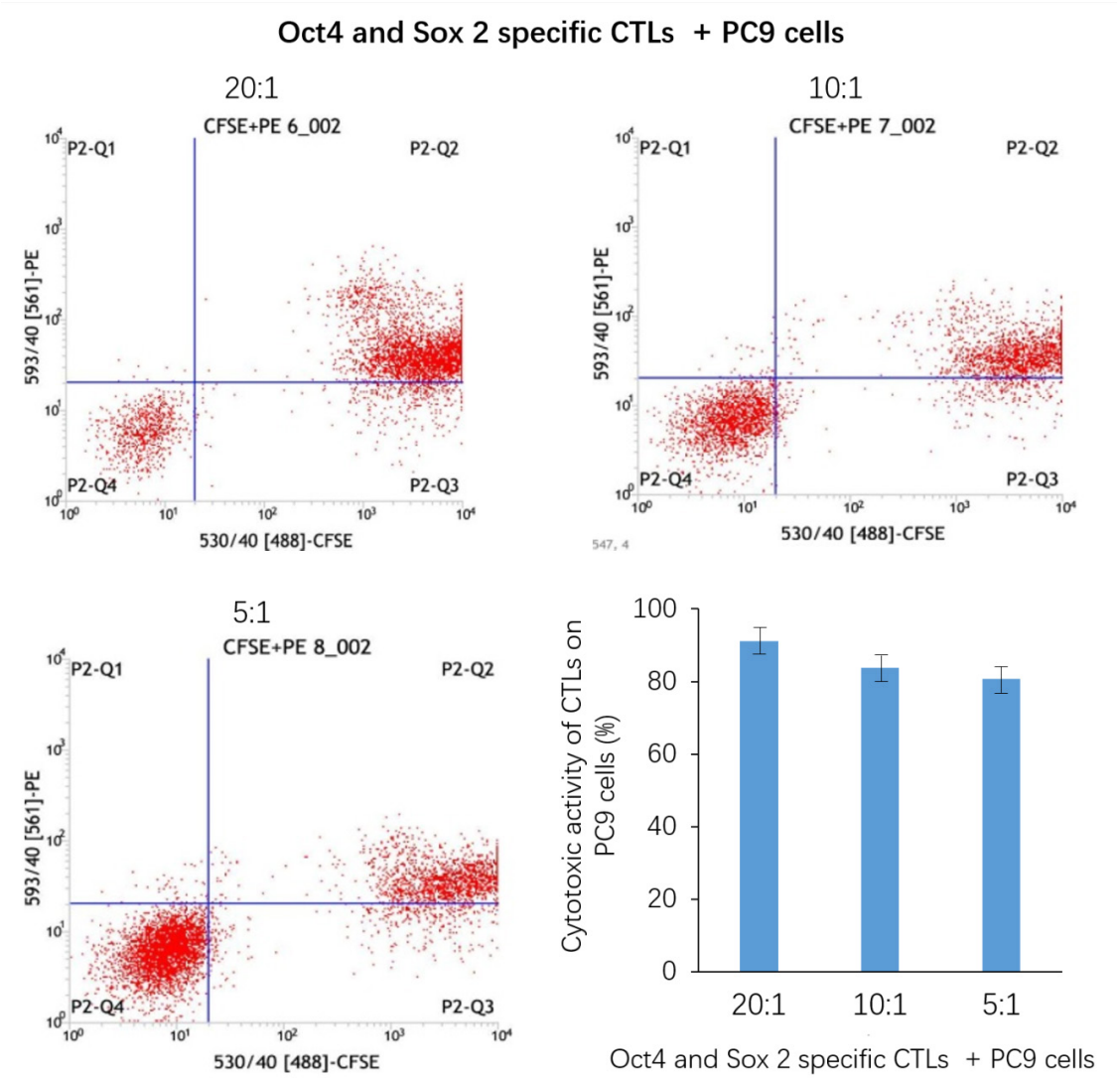
The primary B cells ($CD19^+$) isolated from peripheral blood mononuclear cells (PBMCs) were individually cultured for 3 weeks or cultured on $CD154^+$ NIH3T3 feeder layer for 3 weeks. Then, the cells were collected. HLA-A-PE, CD80-PE, or CD86-APC antibody was added for flow cytometry analysis. The figures show the representative results of flow cytometry analysis and the quantitative statistical histogram.

$^{**}p<0.01$, compared with the B cells cultured alone.



Supplementary Figure 3. The acquisition of $OCT4^{+}$ $Sox2^{+}$ stem-like cancer cells (SLCCs) from cisplatin-resistant PC9 cells

(A) The cisplatin-resistant PC9 cells were cultured in the presence of serum-free stem cells culture medium, leading to the formation of spheroid aggregates. Magnification: 100×. (B) The SLCCs obtained from the stem-like cell sphere (3rd passage) were characterized by immunofluorescence staining of Oct4 and Sox2. Magnification: 400×.



Supplementary Figure 4. Killing effect of Oct4 and Sox2 specific CTLs on PC9 cells

Cytotoxic activity of Oct4 and Sox2 specific CTLs on PC9 cells with ratio 20:1, 10:1 and 5:1 were all above 80%. The procedures were as follows: Oct4 and Sox2 specific CTLs were co-cultured with target cells (PC9 cells) labeled with carboxyfluorescein succinimidyl ester (CFSE) at a ratio of 20:1, 10:1, and 5:1 for 4 h. Then, PE fluorescent dye was added. $CFSE^+$ PE^+ cells were considered as the killed target cells. The proportions of CFSE+ cells and CFSE+ PE+ cells were estimated by flow cytometry. The percentage of cytotoxic activity was calculated as $CFSE^+$ PE^+ cell number /$CFSE^+$ cell number ×100%.