Figure S1

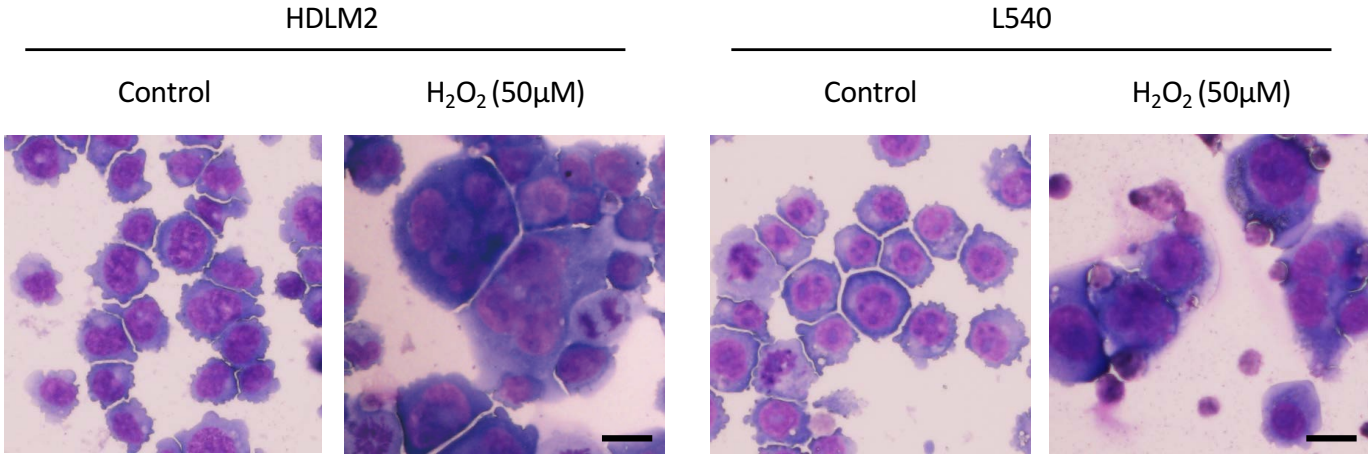

Figure S1. ROS involves induction of large mono- and multi- nuclear cells in HL cell lines, HDLM2 and L540
Cellular morphology of HL cell lines (HDLM2 and L540) treated with indicated concentrations of hydrogen peroxide for 72 h. Scale bar, 20 µm.

Figure S2

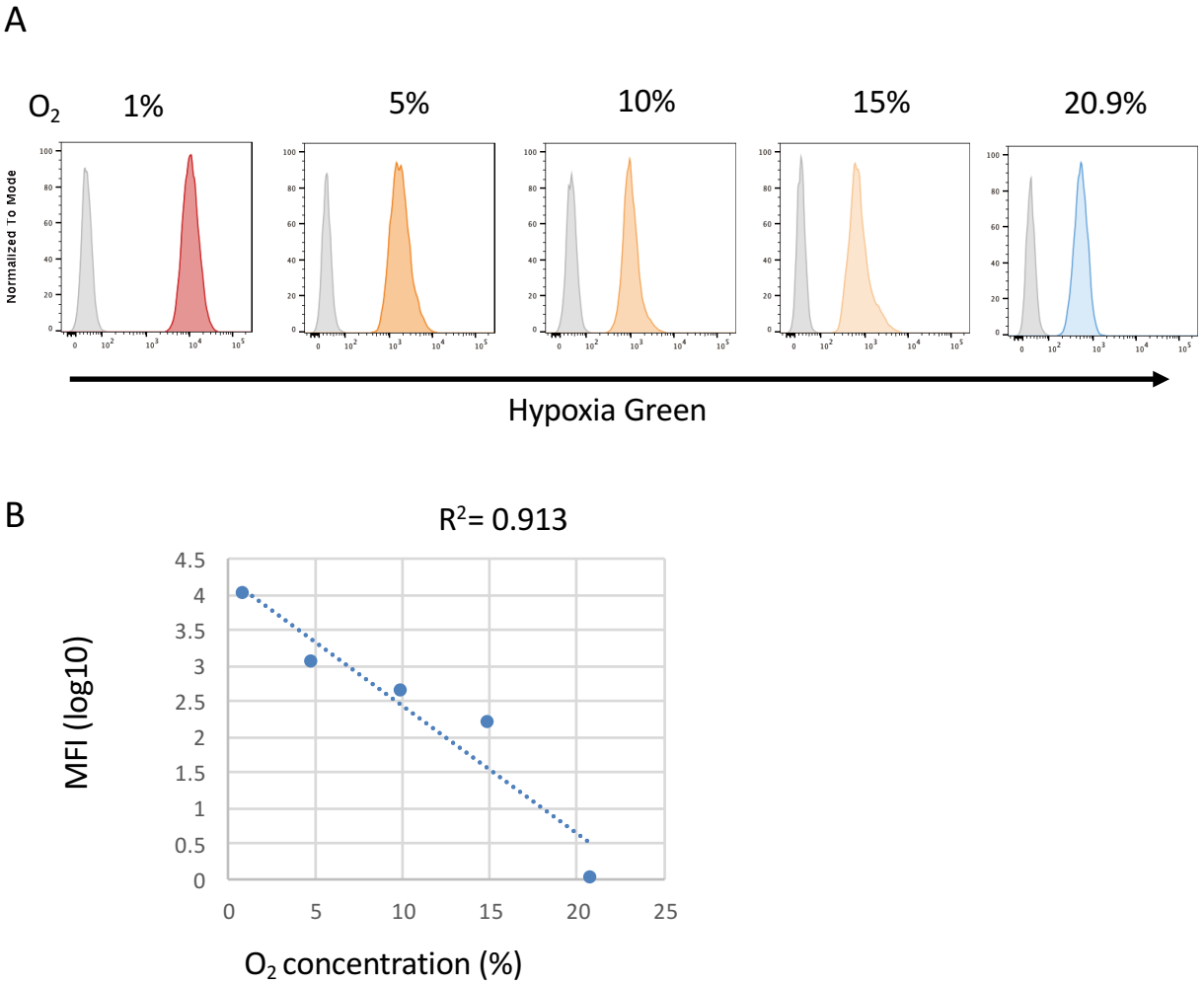

Figure S2. Evaluation of correlation between different O_2 concentrations and Hypoxia Green reagent
A. KMH2 cells (1.5×10^5 cells/ml) were cultured at each O_2 condition for 24 h, then Hypoxia Green reagent was added to the cells and incubated for 3 h. The cells were analyzed using flow cytometry. The fluorescence intensity of Hypoxia Green is shown by histograms. Background signals without treatment with Hypoxia Green are shown by a gray shaded histogram.
B. Correlation between O_2 concentration and MFI of Hypoxia Green. MFI at each O_2 condition was calculated by subtraction of MFI at normoxic conditions. Data shown are means of 3 independent experiments.

Figure S3

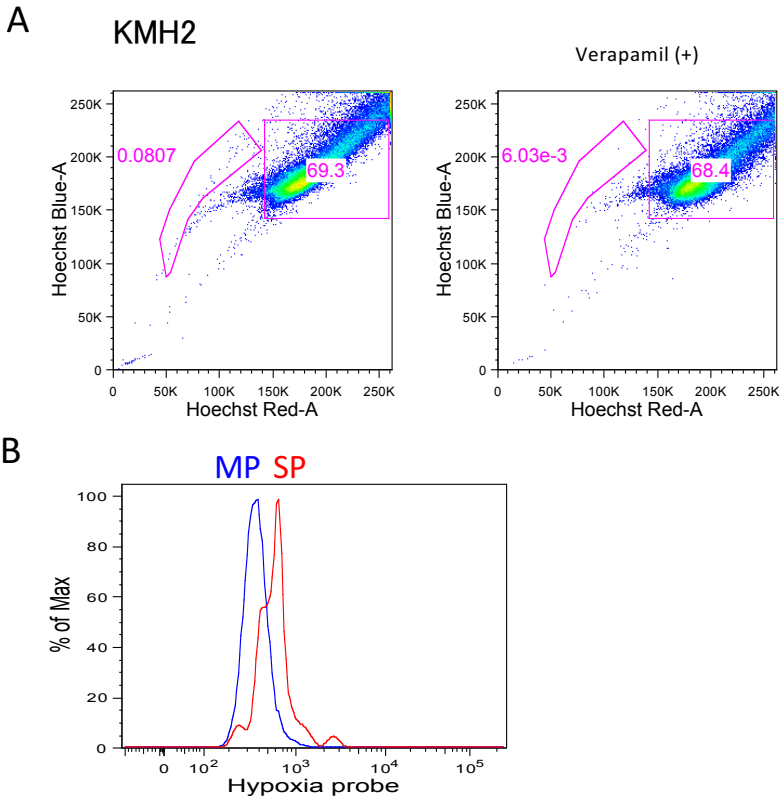

Figure S3. The SP cells show hypoxia compared to the MP cells

A. Representative SP analysis of the HL cell line KMH2 by flow cytometry. The SP fraction of KMH2 was reduced by treatment with verapamil. The percentage of SP cells is indicated in each graph.

B. Representative original histogram obtained by measuring the hypoxic status in SP and MP cells of KMH2 using Hypoxia Green for flow cytometry.

Figure S4

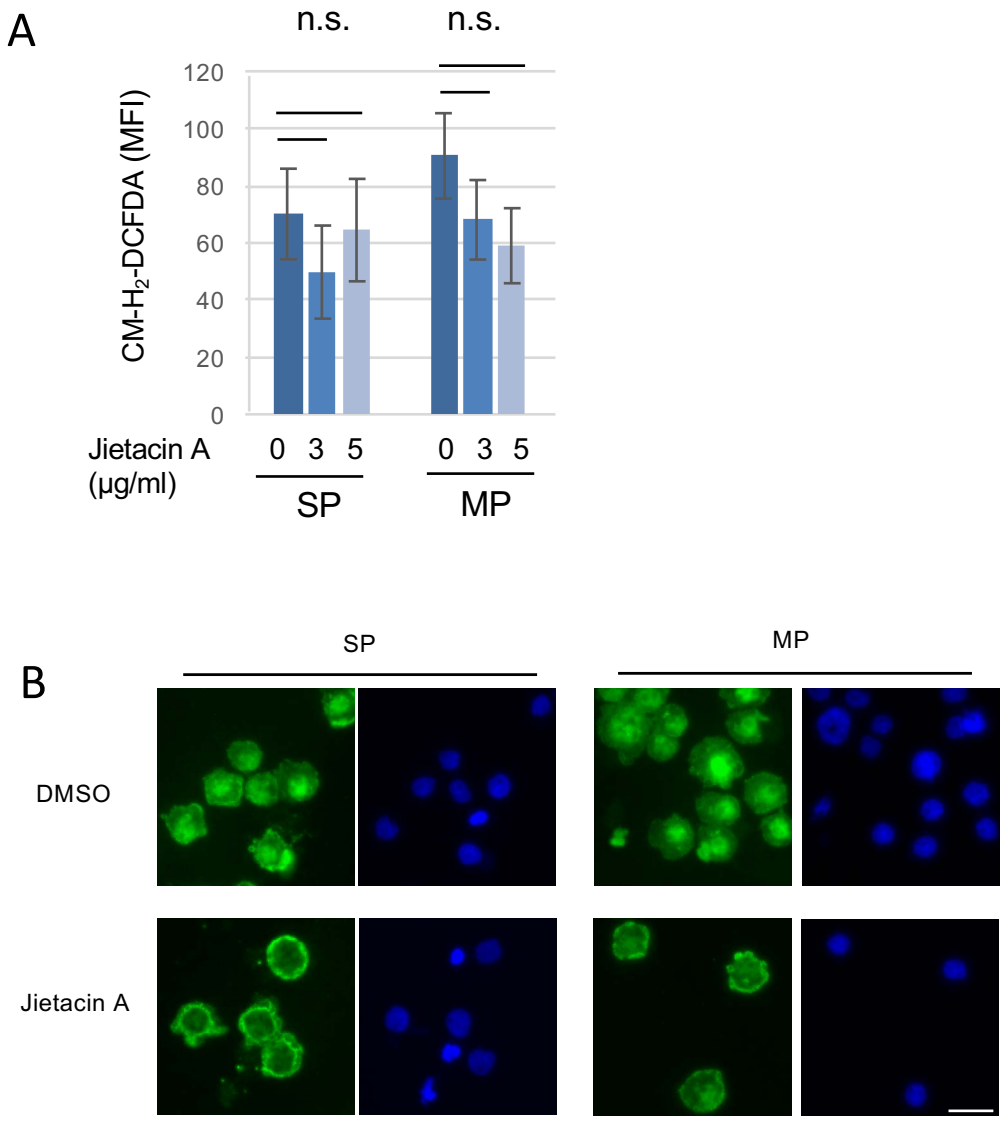

Figure S4. The effect of NF-κB inhibition on the ROS level of the SP and the MP cells of the HL cell line

A. The HL cell line , KMH2 cells ($1x10^5$) was treated with various concentration of NF-κB inhibitor, Jietacin A for 24 h and measured intracellular ROS level of the SP and the MP by flow cytometry as described. n.s., not significant.

B. The SP and the MP cells were separated from the KMH2 cells ($4x10^6$) by flow cytometry and treated with Jietacin A (5 μg/ml) or vehicle (DMSO) for 5 h. The cells were harvested, cytospun onto glass slides and stained with anti-active RelA antibody, which recognizes the nuclear localization signal of RelA and DAPI as described. Fluorescence signals were detected by a fluorescence microscope. Scale bar, 25 μm.

Figure S5

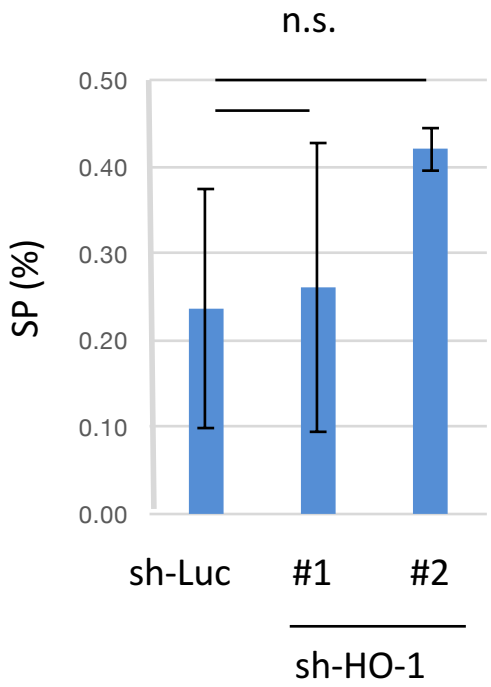

Figure S5. SP fraction of the HL cell line , KMH2 stably knocked down of HO-1 gene
KMH2 cells were transduced with lentivirus expressing shRNA against the HO-1 gene (sh-HO-1 #1 and #2) or experimental control (sh-Luc) as described. These KMH2 cells stably knocked down of HO-1 gene and the experimental control were served for SP analyses. n.s., not significant.

Figure S6

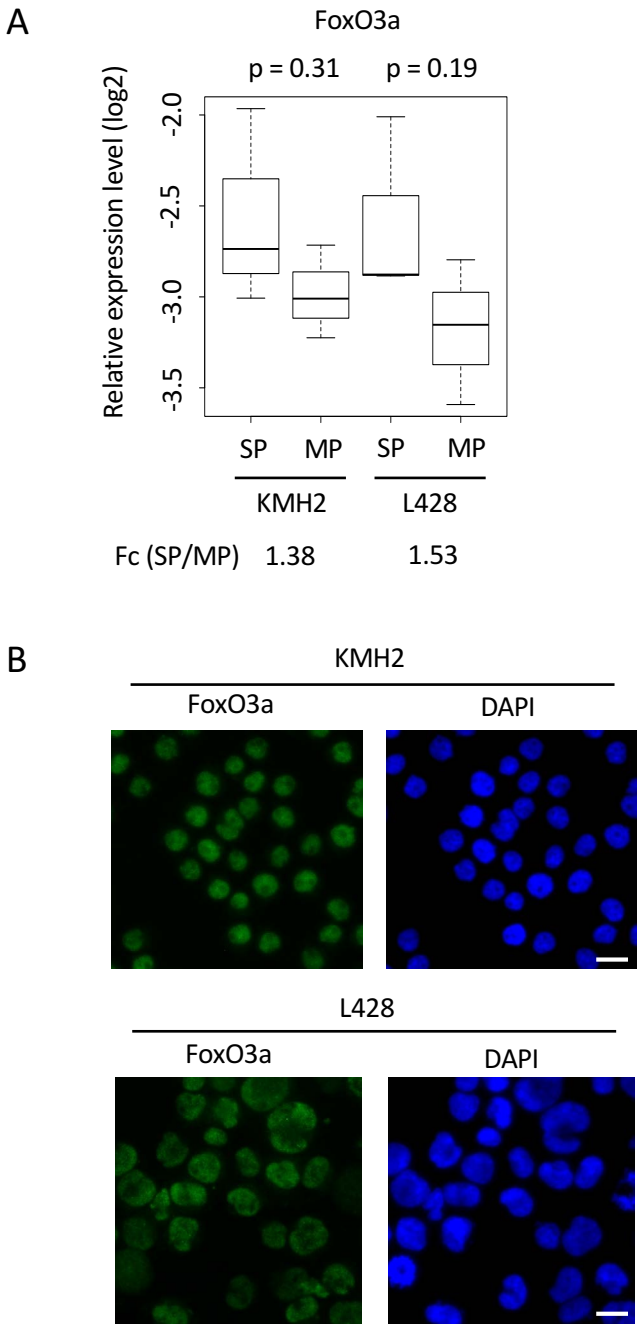

Figure S6. FoxO3a expression in HL cell lines

A. Microarray analysis of FoxO3a expression in SP and MP cells (n = 3). The results of triplicate data are presented by a box plot. The *p*-values were not statistically significant. Fc = fold change of SP/MP.

B. Immunostaining. The KMH2 and L428 cells were stained with anti-FoxO3a antibody as described and nuclear staining was performed using DAPI. Fluorescence signals were detected by a fluorescence microscope. Scale Bar, 20 μm.