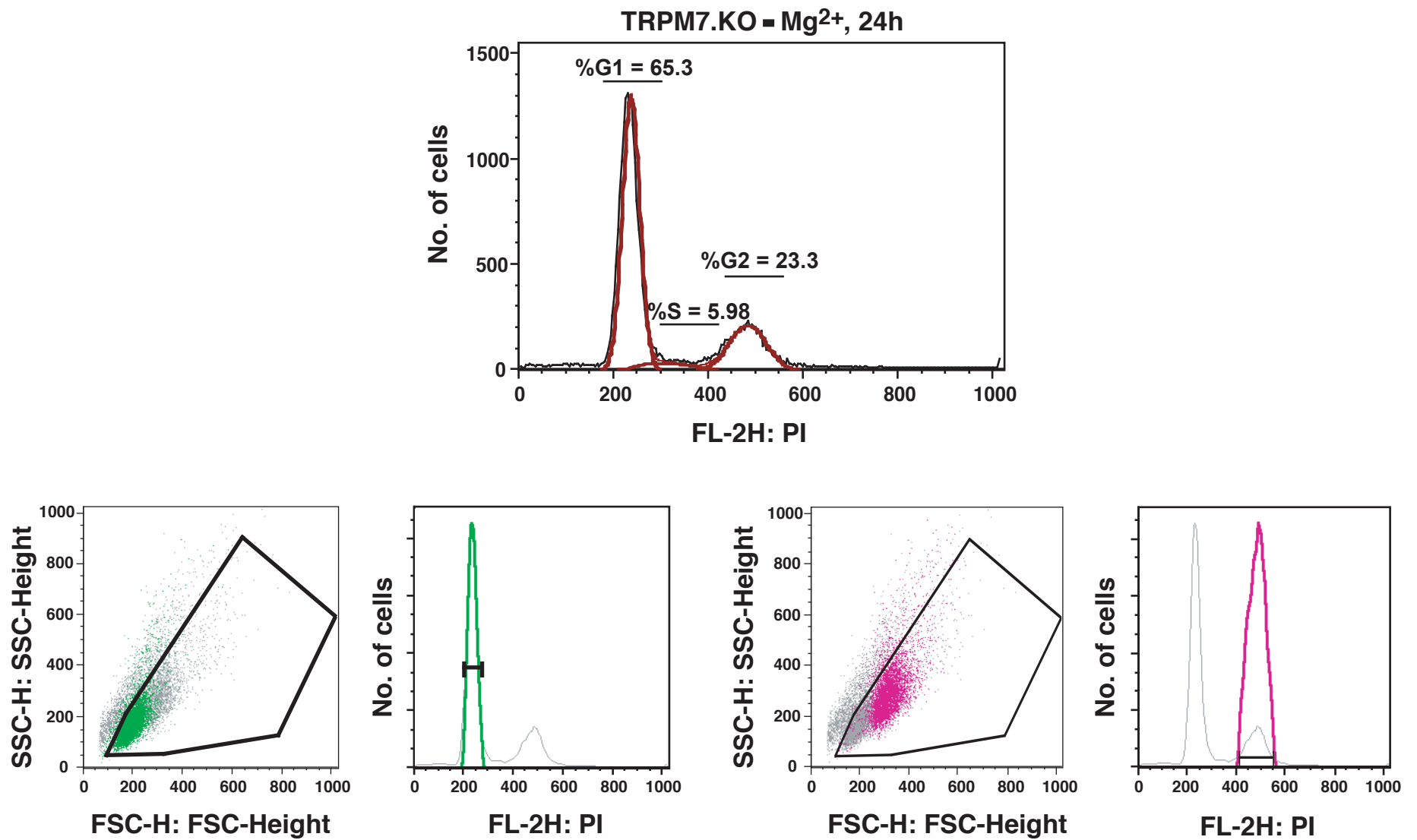
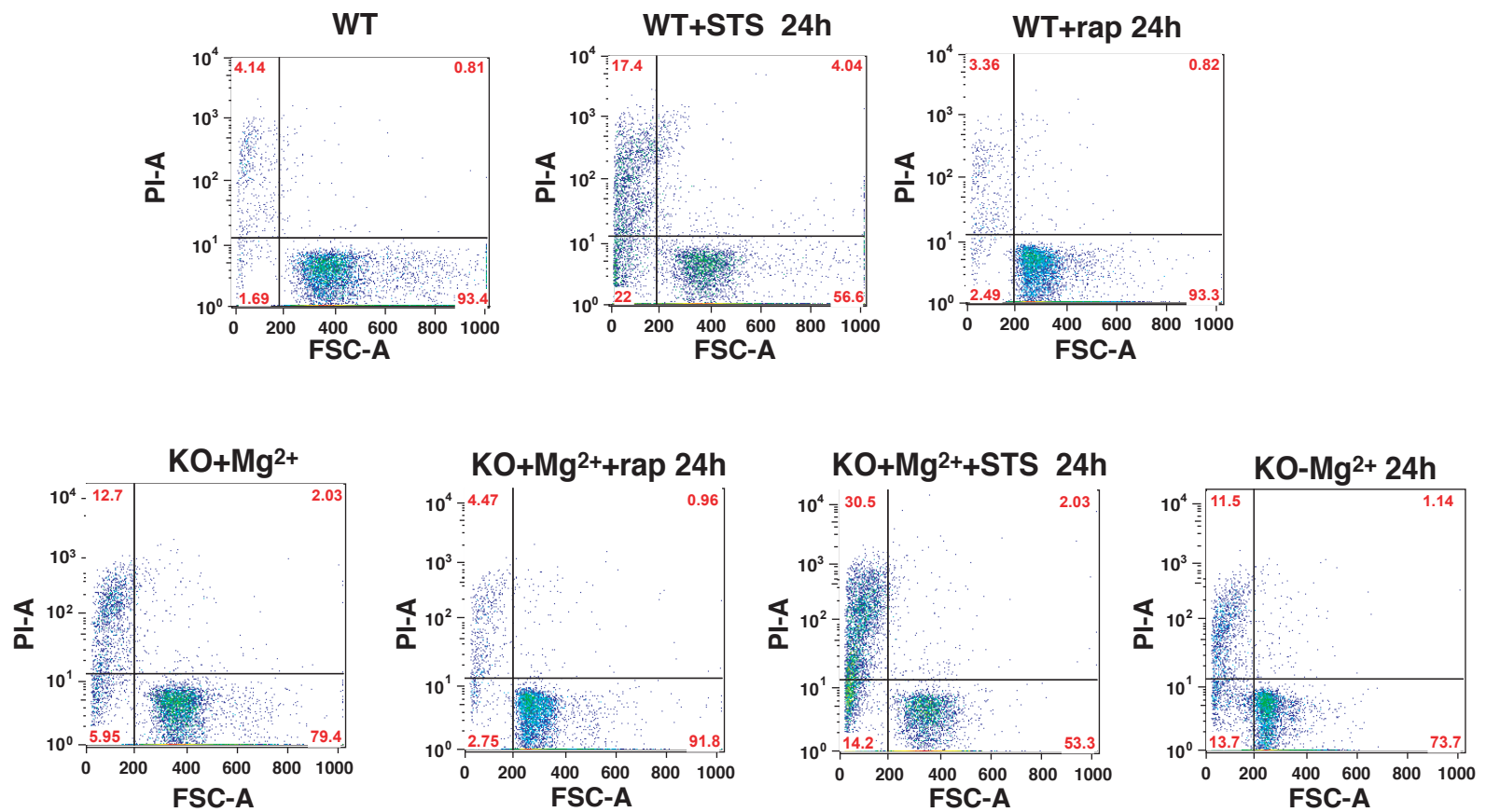


Supplementary Fig.1



Supplementary Fig.1: Non-proliferating TRPM7-KO cells exhibit proliferation arrest in both G0/G1 and G2 phases of cell cycle. Top panel-TRPM7-KO transitioned to regular media for 24 hours were fixed and stained with propidium iodide (PI) for cell cycle analysis. A significant proportion of cells displayed growth arrest in both G0/G1 and G2 stages of cell cycle. Lower panel- G1 arrested cells are significantly smaller in size compared to G2-arrested cells, which are larger based on the size scatter backgating analysis in Flowjo.

Supplementary Fig.2



Supplementary Fig.2: TRPM7-KO cells induced to undergo proliferation arrest in regular media retain their membrane integrity. DT40 WT cells in regular media, TRPM7-KO cells in growth supporting media and TRPM7-deficient cells in regular media were stained with PI and assessed for normal membrane integrity. WT cells in regular media and TRPM7-KO cells in media with supplemental Mg²⁺ were also treated with staurosporine (STS) and rapamycin (Rap) as controls to induce growth arrest. While staurosporine treated cells displayed a higher proportion of dead cells due to apoptosis, rapamycin treated cells and TRPM7-KO cells transitioned to regular media did not display any significant cell death and a large proportion of the cells in both groups were PI negative suggesting that these cells are able to retain their normal membrane integrity. Note: non-proliferating TRPM7-KO cells are also significantly smaller in size compared with rapamycin treated cells.