

## Supplementary Figure 1. Ex vivo KSHV infection in tonsillar cells.

(A) CD3+ T cells or CD19+ B cells were purified by magnetic beads. The purity of each cell preparation was examined by FACS. For better purity of T cells, untouched T cells were purified twice by negative selection while B cells were purified once. Only those cell preparations that demonstrated purity of each cell type higher than 98% were used for KSHV infection studies in (B). One representative FACS analysis on tonsillar cells is shown.

(B) KSHV infectivity, presented as the percent GFP+ cells in unfractionated (designated as "mix") or fractionated (designated as "pure") tonsillar B or T cells, was analyzed by flow cytometry. Where indicated, cells were activated by PHA (10  $\mu$ g/ml) for 6 hr prior to virus infection. rKSHV.219 was infected in the absence of polybrene at MOI 1 for 2 days. CD4+ or CD8+ T cells and CD19+ B cells were gated for GFP expression in fractionated and unfractionated tonsillar cells. Each dot represents rKSHV.219 infectivity of each individual tonsillar cells. The mean of data from 7 different tonsils is indicated by the horizontal bar. \*, *p*<0.05 by Student *t*-test.



Supplemental Figure 2. Infectivity of viruses is comparable from unfractionated (mixed) and B cells cultures in response to various induction stimuli. Viral genome was extracted from culture supernatants from cells (the same cells used in Figure 1) after Dnase I treatment (for details, see Methods). The number of KSHV episomes in a given sample was determined by real-time PCR using probe targeting viral poly-adenylated nuclear (PAN) RNA promoter. The number of particles was divided by infectious unite (IU) to calculate the ratio (Y axis). Horizontal bar indicates average of each experimental group.



**Supplemental Figure 3. KSHV DNA was not detected by nested PCR in 22 tonsillar samples while ca. 45% of samples displayed EBV infection.** To detect KSHV viral DNA (vDNA), total DNA was extracted from 22 tonsils and as a positive control, total DNA was extracted from EBV+ Akata cells or stable SLK cells, harboring rKSHV.219. 3 different sets of nested PCR primers, targeting 2 different regions of KSHV vDNA as indicated, were employed for nested PCR (for details, see Methods) while EBV nested PCR primers target LMP-1 gene. To analyze the quality of DNA, amplification of human GAPDH (regular PCR, 25 cycles) and EBV vDNA (nested PCR) was performed on the same samples. N and P denotes negative control (water) and postive control, respectively. Size makers on the left lane are indicated in base pairs (bp). The expected band of 2<sup>nd</sup> PCR reaction is indicated by arrow. Note that 2 different regions of KSHV were amplified and the number on the right denotes the first base of the first PCR target in the viral genome.