



**Supplemental Data Fig. 1.** Gating strategy of flow cytometry. (A) A case of extranodal marginal zone lymphoma (Patient 6). Viable lymphocytes with negative 7-AAD (7-Aminoactinomycin D) staining and positive CD45 expression were selected. CD19-positive populations with light chain restriction were considered as malignant B-cells (red color). (B) A case of extranodal NK/T cell lymphoma (Patient 9). After gating on the population with negative 7-AAD and positive CD45 staining, surface CD3-negative and CD56-positive cells were identified (red color). (C) A case of CD30-positive anaplastic large cell lymphoma (ALCL) (Patient 10). Malignant cells with CD30-positive, CD3-negative and CD14-negative immunophenotype.