**Figure 1S.** BCP-ALL sample using the proposed panel. Screening tubes (A-E); mandatory tube 1 (F); mandatory tube 2 (G-H); mandatory tube 3 (I-J); mandatory tube 4 (L-M), mandatory tube 5 (K); optional tube 6(N-O), and; optional tube 7(P). Legends: blast cells (red); mature b lymphocytes (dark green), and; events from other cell lineages (gray)**.**



**Figure 2S.** T-ALL sample using the proposed panel. Screening tubes (A-D); mandatory tube 1 (E-F); mandatory tube 2 (G-H); mandatory tube 3 (I-J); mandatory tube 4 (K), mandatory tube 5 (L); recommended tube 6(M); recommended tube 7(N), and; recommended tube 8(O). Legends: blast cells (red); mature T lymphocytes (light green); NK cells (dark blue), and; events from other cell lineages (gray).



**Figure 3S.** AML sample using the proposed panel, including tubes for: screening (A-E); stem cell markers (F-H); granuloma and monocyte differentiations (I-L); erythroid differentiation (M-N); plasmacytoid dendritic cells and basophil lineages (O-P); megakaryocytic lineage (Q-R), and; cross lineage markers (D, F, R-T). Legends: blast cells (red); mature B lymphocytes (dark green); mature T lymphocytes (light green); NK cells (purple); granulocytes (yellowish green); monocytes (orange); erythroblasts (dark blue); basophils (pink); plasmacytoid dendritic cells (light blue), and; events from other cell lineages (gray).

