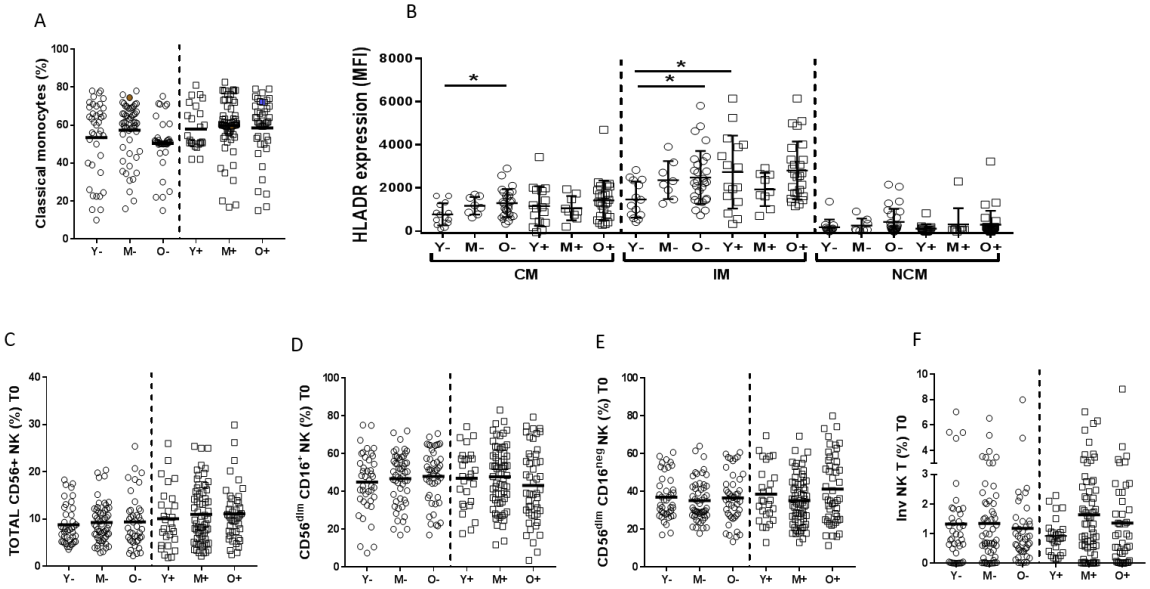
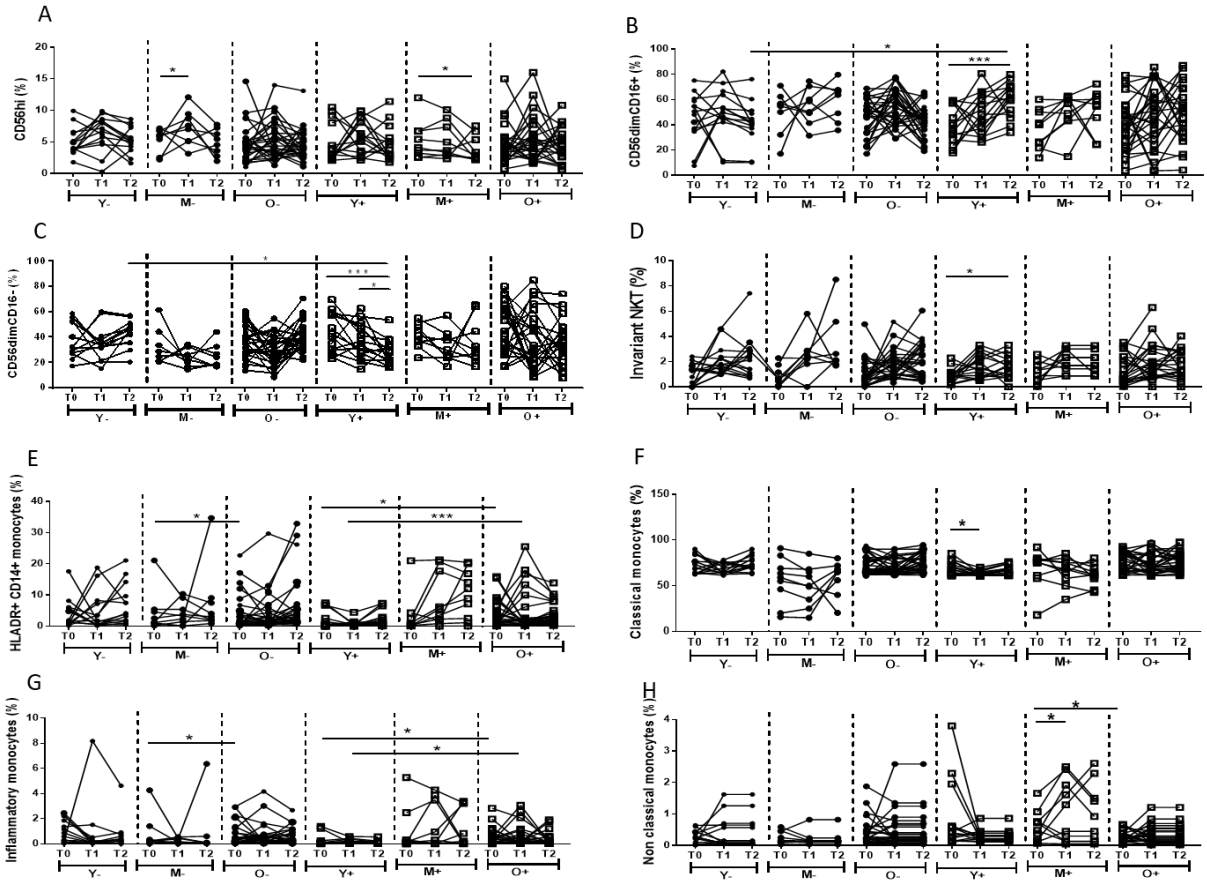
Supplementary Figure 1



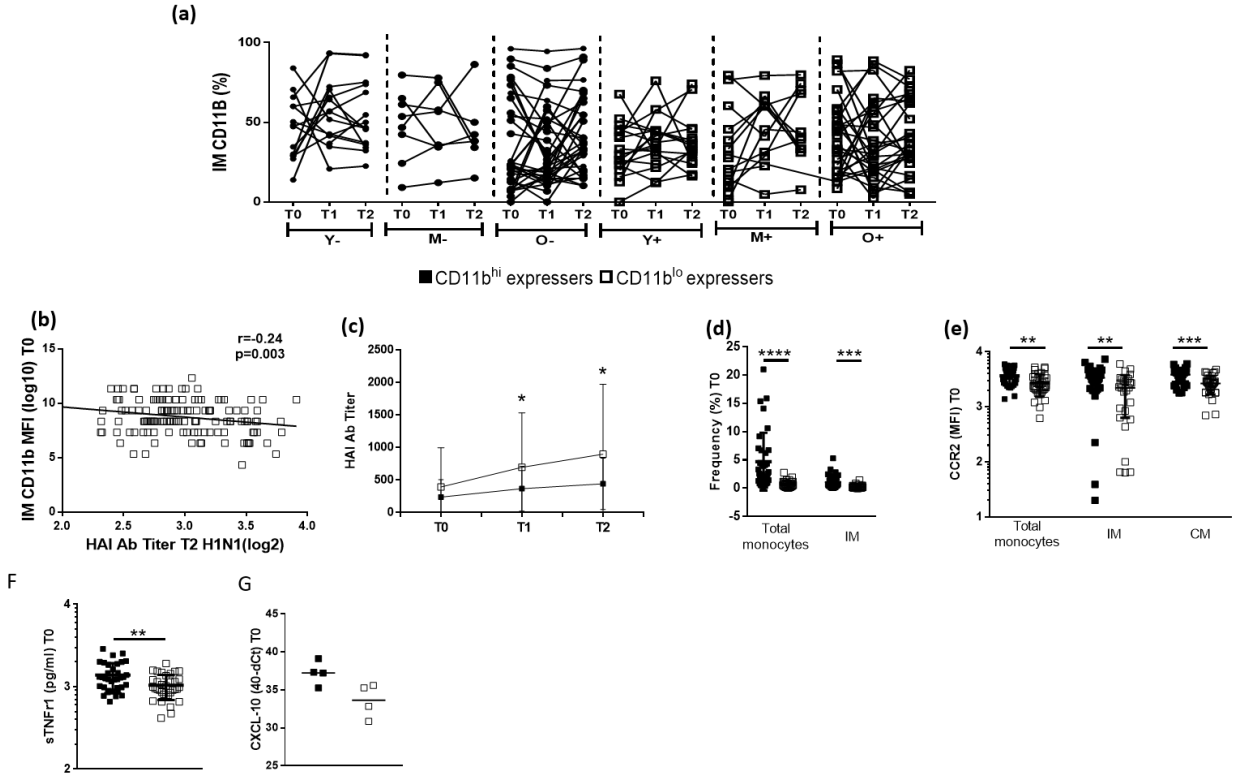
Supplementary Figure 1: Frequencies of monocyte and NK cell subsets in HIV+ and HC participants at pre-vaccination: (A)Frequencies of classical monocytes, (B) MFI of HLADR expression on monocyte subsets at pre-vaccination in HIV+ and HC participants. (C) Frequencies of total NK cells, (D) $CD56^{dim}CD16^{+}$ NK, (E) $CD56^{dim}CD16^{-}$ NK, and (F) Invariant NK T cells in HIV+ and HC participants at baseline.

Supplementary Fig. 2



Supplementary Figure 2: Changes in NK cells and Monocytes with vaccination in HIV+ and HC participants: Cryopreserved PBMC from HC (n=57) and HIV+ (n=68) participants at baseline (pre-vaccination) were thawed and rested overnight followed by ex vivo staining with mAb. (A-D) Frequencies of (A)$CD56^{hi}$ immature NK, mature (B) $CD56^{dim}CD16^{+}$ and (C) $CD56^{dim}$ $CD16^{-}$ NK cells. (D) Frequencies of invariant NKT cells at baseline (T0), day 7 post vaccination (T1) and day 21 post vaccination (T2) in HIV+ and HC participants. (E-H) Frequencies of Total monocytes and monocyte subsets at baseline (T0), day 7 post vaccination (T1) and day 21 post vaccination (T2) in HIV+ and HC participants. Stars indicate the level of significance.

Supplementary Fig. 3



Supplementary Figure 3: Changes in CD11b$^+$ IM with age and HIV infection following influenza vaccination: Cryopreserved PBMC from HC (n=57) and HIV+ (n=68) participants at baseline (pre-vaccination) were thawed and rested overnight followed by ex vivo staining with mAb. (A) Frequencies of CD11b$^+$ IM at baseline (T0), day 7 post vaccination (T1) and day 21 post vaccination (T2) in HIV+ and HC participants. (B) Correlation between CD11b expression (MFI) at prevaccination and Hemagglutination inhibition (HAI) antibody titers at wk 4 post vaccination in HIV+ participants by Spearman correlation test. HIV+ participants were categorized as those expressing high Mean fluorescence intensity CD11b (upper quartile 75%, CD11b MFI>1961, n=35) on inflammatory monocytes and those expressing low CD11b (lower quartile 25%, CD11b MFI <533, n=34) at pre vaccination. (C) Comparison of H1N1 antibody titer at T0, T1 and T2 between CD11b hi expressers and CD11b lo expressers. (D) Frequencies of total monocytes and inflammatory monocytes in CD11b hi expressers and CD11b low expressers at pre vaccination. (E) CCR2 MFI expression on total monocytes, inflammatory monocytes and classical monocytes in CD11b hi expressers and CD11b low expressers at prevaccination. (F) sTNFR1 levels in plasma of HIV+ CD11b hi expressers and CD11b low expressers at pre vaccination (G) CXCL-10 gene expression in sorted IM from CD11b hi expressers (n=4) and CD11b lo expressers (n=4) at pre vaccination