

Figure S1

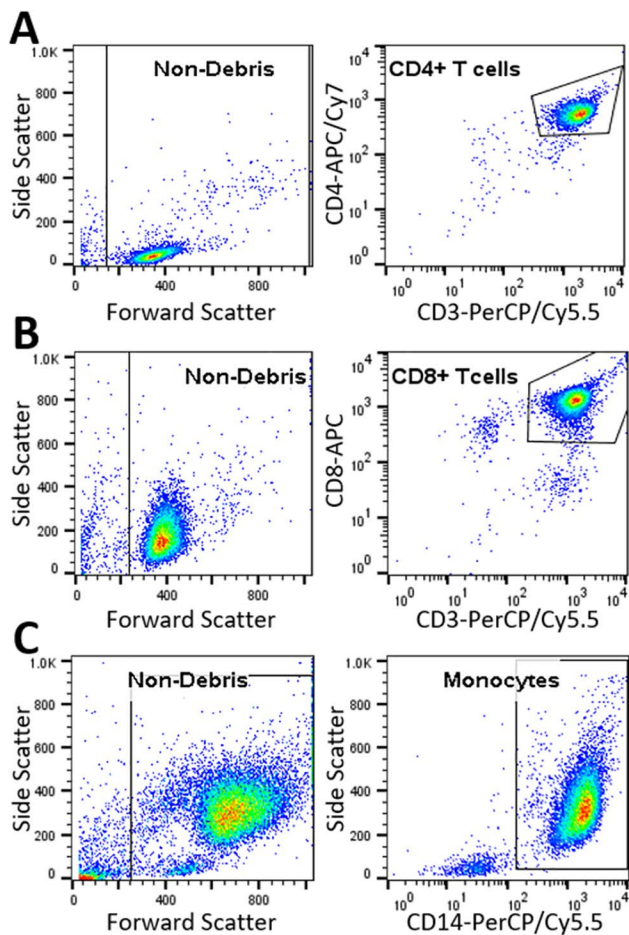
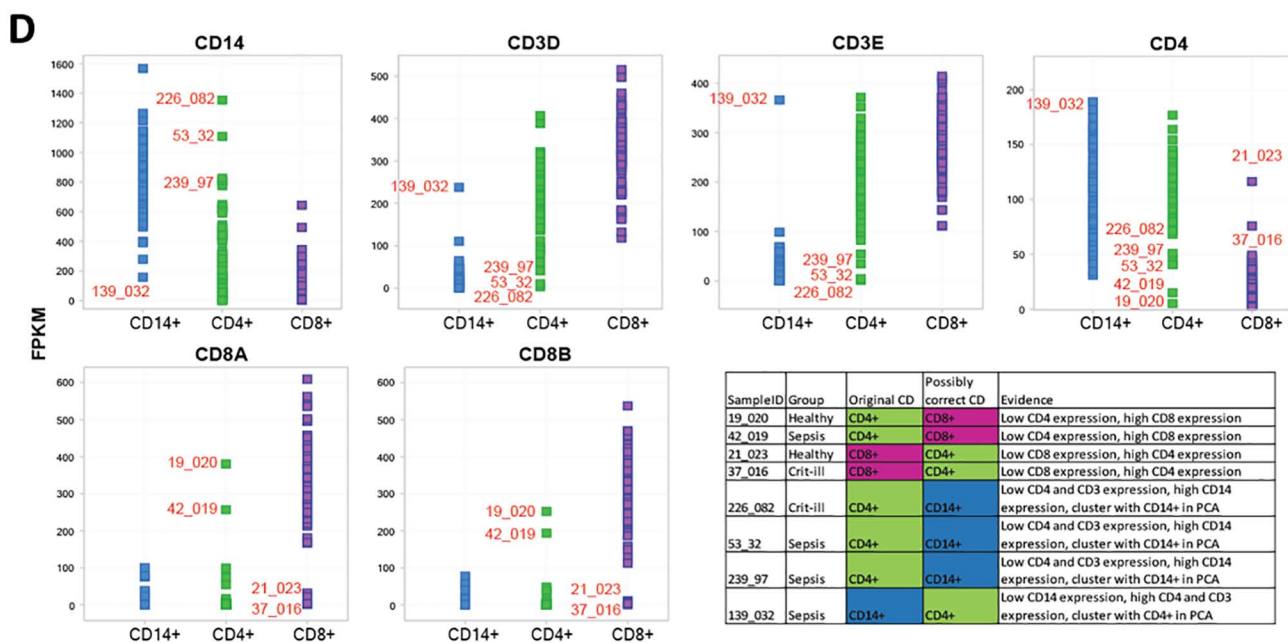


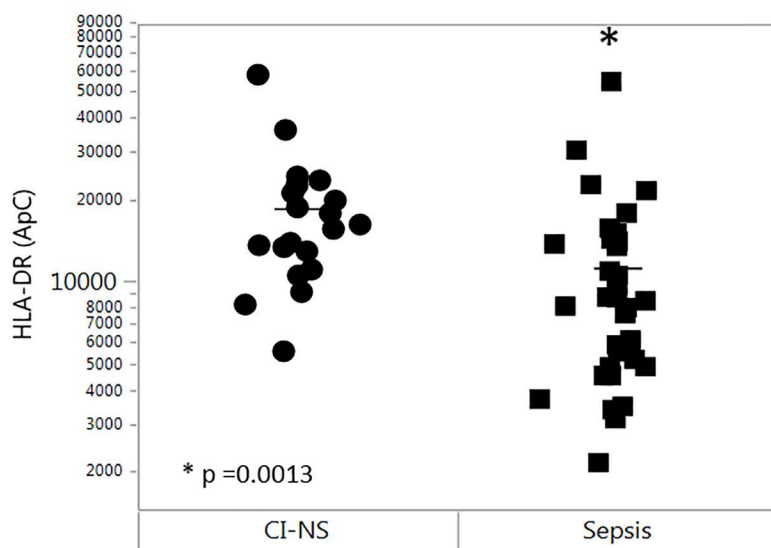
Fig. S1. Purity analysis of enriched cells: Gating strategy shown for CD4+ T cells (A.), CD8+ T cells (B.) and Monocytes (C.). First, debris was gated out on Forward and Side scatter, then non-debris was examined for (A.) CD3 and CD4, (B.) CD3 and CD8, or (C.) CD14 and Side scatter. D. The expression of cell-type specific markers in CD4+, CD8+ and CD14+ samples. The RNA expression patterns of cell-type specific markers overall strongly agrees with the corresponding cell type. Eight samples present as outliers for the marker expressions and show potential evidence of cross-contamination or mis-labeling, and were excluded from downstream analysis.



SampleID	Group	Original CD	Possibly correct CD	Evidence
19_020	Healthy	CD4+	CD8+	Low CD4 expression, high CD8 expression
42_019	Sepsis	CD4+	CD8+	Low CD4 expression, high CD8 expression
21_023	Healthy	CD8+	CD4+	Low CD8 expression, high CD4 expression
37_016	Crit-ill	CD8+	CD4+	Low CD8 expression, high CD4 expression
226_082	Crit-ill	CD4+	CD14+	Low CD4 and CD3 expression, high CD14 expression, cluster with CD14+ in PCA
53_32	Sepsis	CD4+	CD14+	Low CD4 and CD3 expression, high CD14 expression, cluster with CD14+ in PCA
239_97	Sepsis	CD4+	CD14+	Low CD4 and CD3 expression, high CD14 expression, cluster with CD14+ in PCA
139_032	Sepsis	CD14+	CD4+	Low CD14 expression, high CD4 and CD3 expression, cluster with CD4+ in PCA

Figure S2

A



B

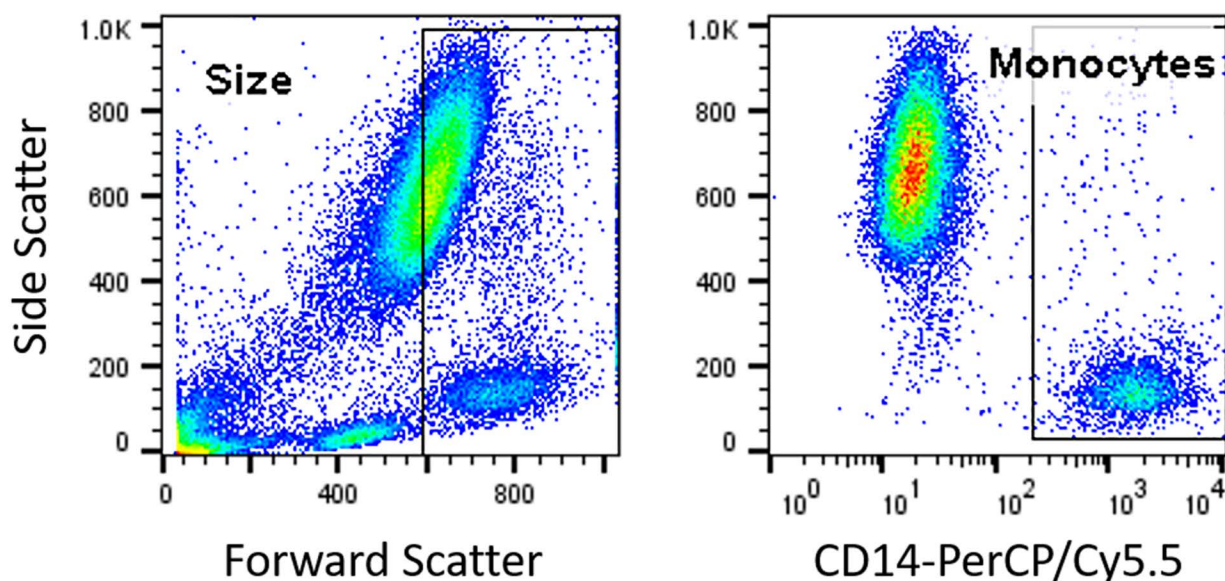
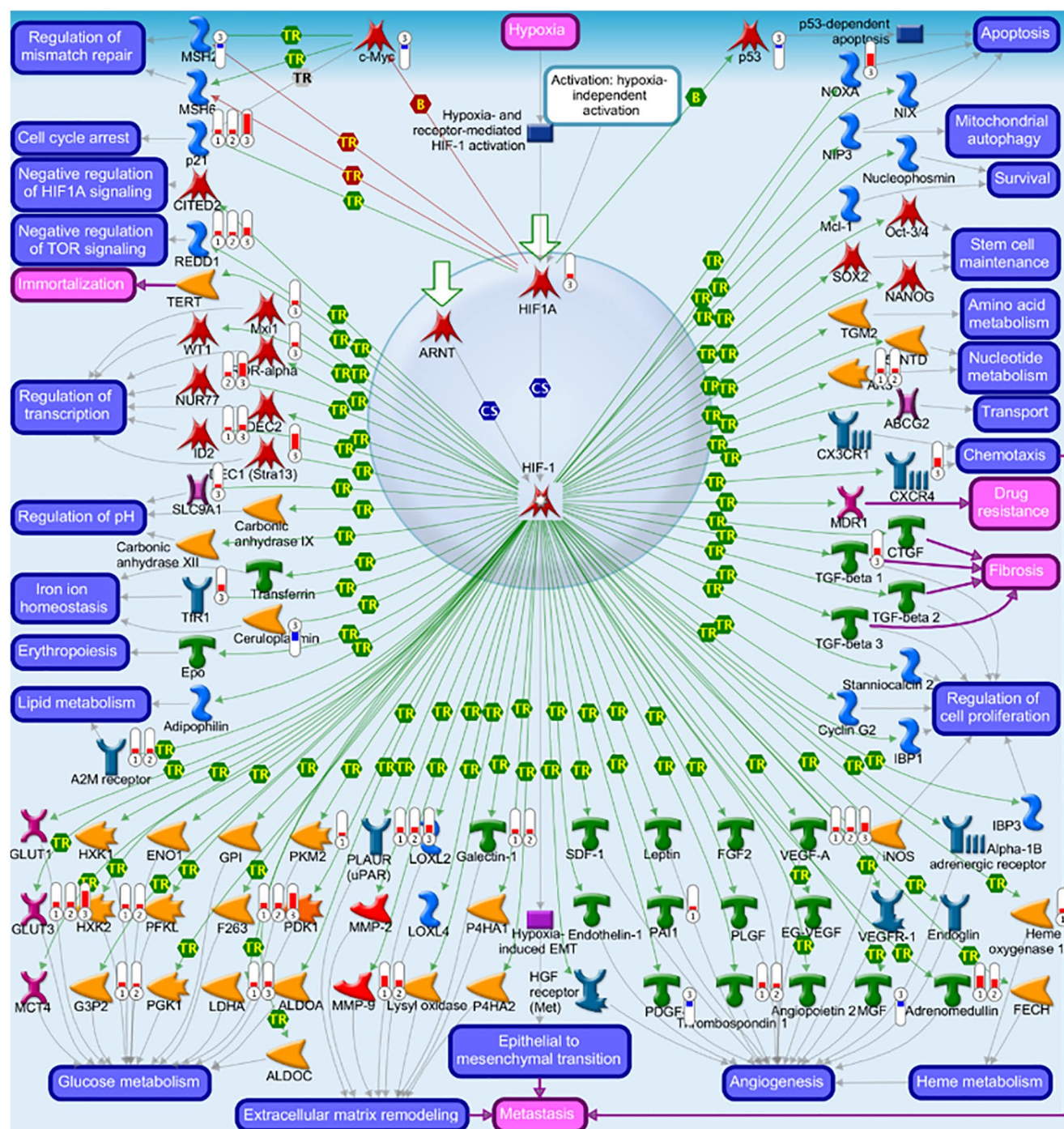


Fig. S2. Surface HLA-DR levels on monocytes: **A.** Surface HLA-DR levels on the monocytes of sepsis patients was significantly lower than that of CINS patients. **B.** Gating strategy for monocyte HLA-DR measurement. A rough monocyte gate was drawn on a Forward Scatter x Side Scatter plot, events inside the initial gate were then gated for monocyte positivity in the PerCP/Cy5.5 channel per manufacturer's instructions, events from this gate were considered monocytes. GMFI of this population was recorded for the monocyte population and this GMFI was compared against a standard curve derived from a concurrent run of BD Quantibrite beads. The result of this comparison is a value defined, by the manufacturers, as antibodies per cell (ApC).

Figure S3



- ① Up CD4 Sepsis vs Healthy
- ② Up CD4 Crit-ill vs Healthy
- ③ Up CD4 Cancer vs Healthy
- ① Down CD4 Sepsis vs Healthy
- ② Down CD4 Crit-ill vs Healthy
- ③ Down CD4 Cancer vs Healthy

Fig. S3. *HIF-1 α* response pathway: Downstream targets of HIF-1 α were upregulated in all samples from all disease types. Here, bubbles indicate which downstream targets showed differential expression in various disease states. Numbers within them represent the patient population in which they were differentially expressed (1=Sepsis, 2=CINS, 3=Cancer). Blue colored bubbles represent downregulated genes while red colored bubbles represent upregulated genes. The amount of fill in the bubble indicates relative degree of altered expression, minimum 1.2 [FC].