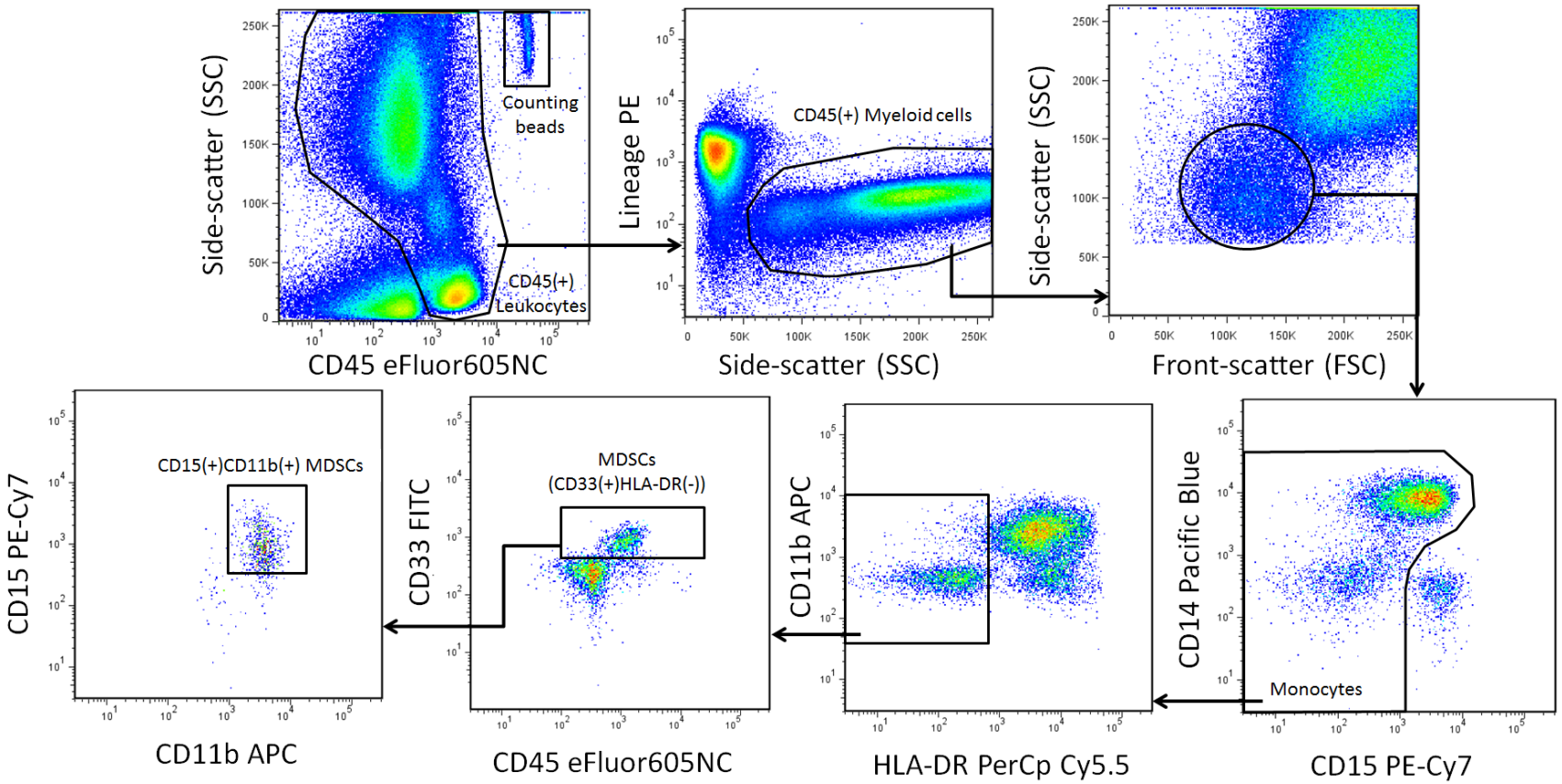
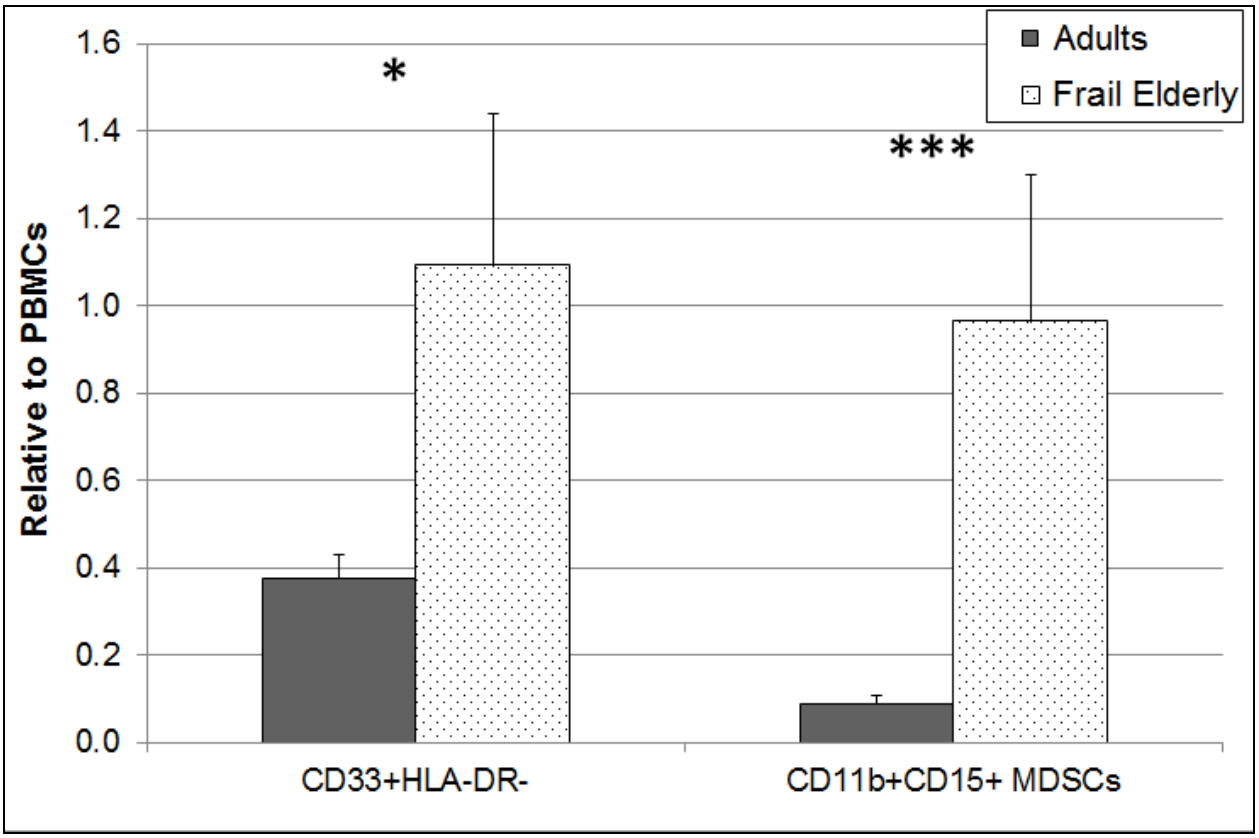
Supplementary Table 1: Primer sets used for quantitative PCR of CD33+ leukocytes and monocytes.

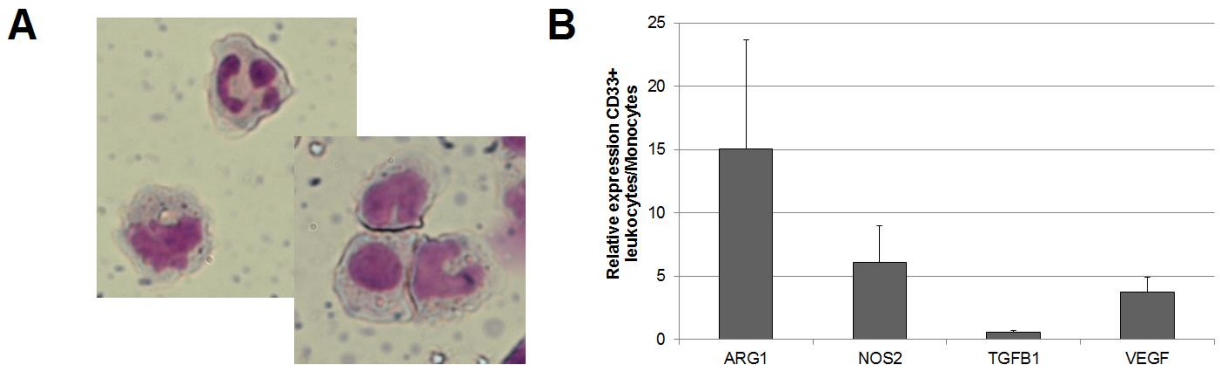
Gene	NCBI GeneID	Sequence (5'-3')	
GAPDH	2597	F	GGCCAGATCCTGTCCAAGC
		R	GTGGGTTTCCACCATTAGCAC
TGFB1	7040	F	GAGTCAACGGATTTGGTCGT
		R	TTGATTTTGGAGGGATCTCG
NOS2	4843	F	AGGGACAAGCCTACCCCTC
		R	CTCATCTCCCGTCAGTTGGT
ARG1	383	F	TGGACAGACTAGGAATTGGCA
		R	CCAGTCCGTCAACATCAAAACT
VEGF	7422	F	AGGGCAGAATCATCACGAAGT
		R	AGGGTCTCGATTGGATGGCA



Supplementary Figure 1: Gating strategy for identifying $CD33^{+}HLA\text{-}DR^{-}$ MDSCs in peripheral blood.



Supplementary Figure 2: Myeloid-derived suppressor cells (MDSCs) and $CD11b^{+}CD15^{+}$ MDSCs are increased in purified PBMCs of the frail elderly (n=10) as compared to the young (n=6). Mean and standard error, relative to CD45+ PBMCs, are presented. Comparisons were performed by non-parametric Wilcoxon test. ***, $p<0.001$; *, $p<0.05$.



Supplementary Figure 3. Phenotype and function of MDSCs described in this study. A) CD33+ cells express the phenotype MDSCs including the characteristic large granular cytoplasm consistent with both CD15+ and CD15- cells. CD33+ cells display nuclear morphology which displays both granulocytic morphology consistent with the CD15+ cells and monocytic morphology consistent with CD15- cells. B) MDSCs are characterized by expression of arginase 1 (ARG1), inducible nitric oxide synthase (NOS2), and vascular endothelial growth factor (VEGF), as compared to monocytes not expressing CD33.